Operation/Reference Guide

Vision2®

Video Management/Distribution

Latest Release: 06/11/2012

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Overview

Vision^2 is a sophisticated, fully-integrated video capture, management, and broadcast system for organizations and homeowners wanting a comprehensive, yet simple-to-use, IP video delivery solution. Vision^2 offers live, scheduled, or on-demand video, all managed from a convenient web interface. Through the web interface, you can perform the following:

- Capture and encode content
- Upload, archive, manage, and publish content
- Schedule programming with a dynamic online program guide
- Broadcast at selectable bitrate to any platform
- Provide live TV and video on-demand over Intranet to any desktop/display

Vision^2 Dealer Demo Systems

The V2-DLR-DEMO-SYS Dealer Demo System (**FG3100-01K**) provides one live MPEG channel, one live Windows Media Video (WMV) stream, and two live Digital Video Broadcasting - Terrestrial (DVB-T) multiplexes for up to 10 users over a standard IP network. The Producer channel allows scheduling for live channels or timed playback of prerecorded video content via unicast (WMV only) or multicast on private networks or the web. The V2-DLR-DEMO-SYS Dealer Demo System includes:

- 2 Live DVB-T multiplexes (10 users)
- 1 Live WMV stream (10 users)
- 2 Producer Channels (1 MPEG, 1 WMV)
- 1 Vision^2 Server
- 1 MAX-CSE Encoder

The V2-DLR-DEMO-1RU Dealer Demo System (**FG3100-D1K**) provides two live MPEG channels and two live Digital Video Broadcasting - Terrestrial (DVB-T) multiplexes for up to 10 users over a standard IP network. The V2-DLR-DEMO-1RU Dealer Demo System includes:

- 1 Vision2 1RU Dealer Demo Appliance
- 2 Live DVB-T multiplexes
- 2 Live MPEG streams
- 1 Producer Channel (MPEG)
- 1 Record Channel (MPEG)
- 1 Archive (up to 2 Video on Demand users)

The V2-DLR-DEMO-SFF Dealer Demo System (**FG3100-D2K**) provides one live MPEG channel and one live Digital Video Broadcasting - Terrestrial (DVB-T) multiplex for up to 10 users over a standard IP network.

The V2-DLR-DEMO-SFF Dealer Demo System includes:

- 1 Vision2 SFF Dealer Demo Appliance
- 1 Live DVB-T multiplex (with support for locally stored TS demo content)
- 1 Live MPEG stream
- 1 Producer Channel (MPEG)
- 1 Record Channel (MPEG)
- 1 Archive (1 Video on Demand user)

Vision^2 WMV Solution

The Vision^2 WMV Solution (**FG3100-10K**) provides multiple live WMV channels for up to 10 users as well as Video on Demand support over a standard IP network. The Vision^2 Producer channels allow scheduling for live channels or timed playback of pre-recorded video content via unicast or multicast on Intranets. The Vision^2 WMV Solution includes:

- 2 Live WMV Channels (10 Users)
- 1 Producer Channel
- 1 Vision^2 Master Server
- 1 WMV Appliance
- 250 Archive Hours

Vision^2 MPEG Solution

The Vision^2 MPEG Solution (**FG3100-20K**) provides multiple live MPEG channels over a standard IP network for up to 20 users. The Vision^2 Producer channel allows for scheduling for live channels or timed playback of pre-recorded video content via unicast or multicast on Intranets. The Vision^2 MPEG Solution includes:

- 2 Live MPEG2 Channels (20 Users)
- 1 Producer Channel
- 1 Vision^2 Master Server
- 2 MAX-CSE Encoders
- 250 Archive Hours

Vision^2 TDS

Vision^2 TDS (**FG3100-33K, -34K**) provide multiple live Digital Video Broadcast (DVB) or MPEG multiplexed channels over a standard IP network. The FG3100-33K version is used to integrate DTV into an existing Vision^2 system. The FG3100-34K version provides a stand-alone live system with support for 6 DTV streams and 6 MPEG streams. The following table lists the hardware and tools included in each Vision^2 TDS kit:

Vision^2 Digital TV Solution Specifications	
V2-TDS (**FG3100-33K**):	• 6 Live DTV Transport Streams • 1 Digital TV appliance
V2-MPEG-LIVE (**FG3100-34K**):	• 6 Live DVB-T or DVB-S Transport Streams • 6 Live MPEG2 channels • 1 Digital TV appliance

Vision^2 Expansion Storage

The Vision^2 Expansion Storage connects directly to the Video on Demand server to allow you to grow the storage capacity of your system. The Expansion Storage is shipped in a RAID configuration in order to provide resiliency in the event of a disk failure.

- V2-PVA 15TB PowerVault Storage Archive (**FG3101-10**)
- V2-STORAGE-2400 (**FG3102-01**)

You can store and manage videos in Flash, FLV, WMV, MPEG2, or MPEG4 format for future use. You can then use the stored content to build your own channel or allow users to access it with Video on Demand. The Vision^2 Archive has an integrated search feature that enables you to find content based on titles and metadata. See the *Archive Service* section on page 85 for more information.

Supported Third-Party Encoders

Vision^2 supports the following third party encoding units to expand upon the available stream types:

- Visionary Solutions AVN200 - MPEG-2 (SD/Full-D1) single channel encoder appliance
- Visionary Solutions AVN420 - h.264 (SD/D1 MPEG-4 Part 10/AVC) audio video encoder blade
- VBrick WMV Encoder PN 9190-4200-000 Single Channel Encoder (Up to 640 x 480)

The VBrick encoder has a Join Own Multicast setting. This setting is not available on the Vision^2 configuration page, so you must adjust this setting prior to setting up the encoder to interface with the Vision^2 system.

Use the VBrick Web Interface in a web browser to enable the Join Own Multicast setting prior to controlling the encoder via the Vision^2 system (see FIG. 1).

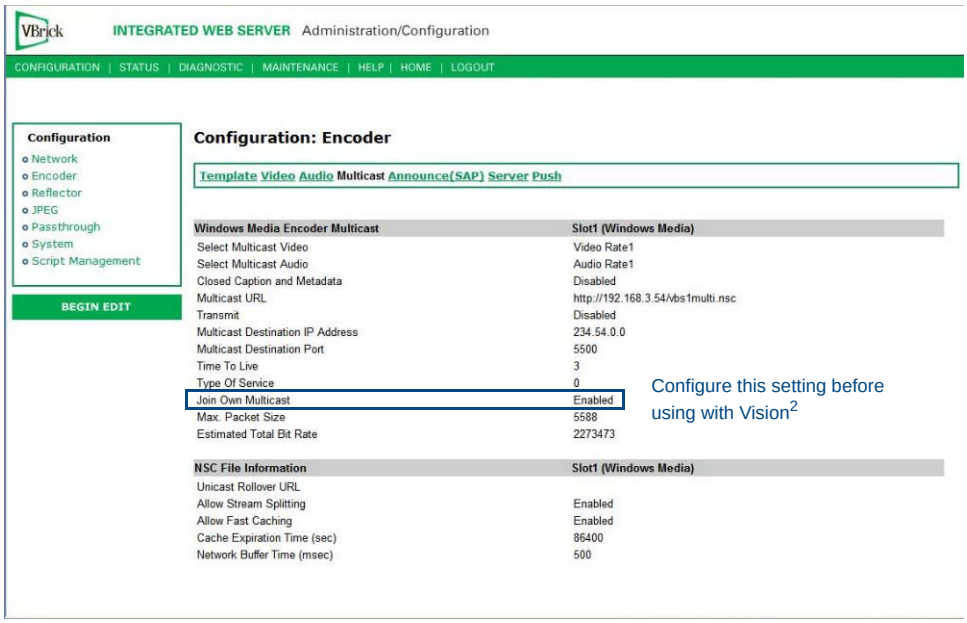


FIG. 1 VBrick Configuration page

Server Specifications

Vision^2 servers can come installed with capture cards which enable you to capture and broadcast live video content in Windows Media Video (WMV). The system can also be supplied with a MAX encoder to broadcast live content in MPEG-2 format.

Vision^2 Master Server

The following table lists the specifications for the Vision^2 Master server:

Vision^2 Master Server Specifications	
Processor:	1 Intel® E5500 Xeon® 5500 series processor
Memory:	6GB Memory (3x2GB), 1333MHz Single Ranked LV RDIMMs
Storage:	• 2 300GB 15K RPM SA SCSI 6Gbps 3.5in Hotplug Hard Drives • 4 1TB 7.2K RPM SATA 3.5" Hot Plug Hard Drives
Power:	High Output Power Supply Non-Redundant, 870W
Front Panel Components:	
USB ports	2 USB 2.0 ports for mouse, keyboard, or external peripheral devices
Video connector	1 15-pin (female) video connector for connecting a video output device such as a PC monitor
LCD panel	Displays system ID, status info, and error messages.
Power button	Press to power on server.
Rear Panel Components:	
Video connector	1 15-pin (female) video connector for connecting a video output device such as a PC monitor
Serial connector	1 9-pin (male) serial connector
WMV Video connector	1 15-pin (male) video connector for WMV source (WMV and V2-DLR-DEMO-SYS Dealer Demo Solutions only)
USB port	2 USB 2.0 ports for mouse, keyboard, or external peripheral devices
LAN connectors	4 RJ-45 LAN ports for connecting to a network router (10/100/1000 Ethernet)
Rack Mount	Sliding Ready™ rails with Cable Management arm
Operating Environment:	• Operating Temperature: 10º C to 35º C (50º F to 95º F) • Storage Temperature: -40º C to 65º C (-40º F to 149º F) • Operating Relative Humidity (non-condensing twmax=29º C): 20% to 80% non-condensing • Maximum Humidity Gradient: 10% per hour, operational and non-operational conditions • Storage Relative Humidity: 5% to 95% non-condensing (twmax=38º C)
Dimensions (HWD):	3 3/8" (8.64cm) H x 17 7/16" (44.31cm) W x 26 13/16" (68.07cm) D
Weight:	Rack Weight 57.54 lbs (26.1 kg)

WMV Appliance

The following table lists the specifications for the Vision^2 WMV appliances:

Vision^2 WMV Appliance Specifications	
Processor:	Quad Core Xeon X3323 Processor2x3MB Cache, 2.5GHz, 1333 MHz FSB
Memory:	2GB 667MHz (2x1GB), single ranked DIMMs
Storage:	2 250GB 7.2K RPM serial ATA 3Gbps 3.5-in cabled hard drives
Power:	Single 400W power supply
Front Panel Components:	
USB ports	2 USB 2.0 ports for mouse, keyboard, or external peripheral devices
Video connector	1 15-pin (female) video connector for connecting a video output device such as a PC monitor
DVD-ROM	8X DVD-ROM drive
Rear Panel Components:	
Serial connector	1 9-pin (male) serial connector
Video connector	1 15-pin (female) video connector for connecting a video output device such as a PC monitor
USB ports	2 USB 2.0 ports for mouse, keyboard, or external peripheral devices
LAN connectors	2 RJ-45 LAN ports for connecting to a network router (10/100/1000 Ethernet)
WMV Video connector	2 15-pin (male) video connectors for WMV source (WMV appliance only)
Rack Mount	Sliding Ready™ rails with Cable Management arm
Operating Environment:	• Operating Temperature: 10º C to 35º C (50º F to 95º F) • Storage Temperature: -40º C to 65º C (-40º F to 149º F) • Operating Relative Humidity (non-condensing twmax=29º C): 20% to 80% non-condensing • Maximum humidity gradient: 10% per hour, operational and non-operational conditions • Storage Relative Humidity: 5% to 95% non-condensing (twmax=38º C)
Dimensions (HWD):	1 11/16" (4.235cm) H x 16 3/4" (42.63cm) W x 26" (66.04cm) D
Weight:	Rack Weight 29.66 lbs (13.45 kg)

Digital TV Appliance

The following table lists the specifications for the Vision^2 Digital TV appliance:

Vision^2 Digital TV Appliance Specifications	
Processor:	One Quad-Core Intel® Xeon® 3420 series processor
Memory:	2GB Memory (2x1GB), 1066MHz Single Ranked UDIMM
Storage:	160GB 7.2k RPM Serial ATA 3Gbps 3.5-in Cabled Hard Drive-Entry
Power:	Single cabled power supply (250W)
Front Panel Components:	
USB ports	2 USB 2.0 ports for mouse, keyboard, or external peripheral devices
Video connector	1 15-pin (female) video connector for connecting a video output device such as a PC monitor
Rear Panel Components:	
Serial connector	1 9-pin (male) serial connector
Video connector	1 15-pin (female) video connector for connecting a video output device such as a PC monitor
USB ports	2 USB 2.0 ports for mouse, keyboard, or external peripheral devices
LAN connectors	2 RJ-45 LAN ports for connecting to a network router (10/100/1000 Ethernet)
Rack Mount	Sliding Ready™ rails with Cable Management arm
Operating Environment:	• Operating Temperature: 10º C to 35º C (50º F to 95º F) • Storage Temperature: -40º C to 65º C (-40º F to 149º F) • Operating Relative Humidity (non-condensing twmax=29º C): 20% to 80% non-condensing • Maximum humidity gradient: 10% per hour, operational and non-operational conditions • Storage Relative Humidity: 5% to 95% non-condensing (twmax=38º C)
Dimensions (HWD):	1 11/16" (4.24cm) H x 17 1/8" (43.43cm) W x 15 1/2" (39.37cm) D
Weight:	Rack Weight 17.76 lbs (8.058 kg)
Optional Accessories:	• DTV-TX01-DVB-T Digital TV Transmitter (**FG1410-01**) • DTV-TX02-DVB-S Digital TV Transmitter (**FG1410-02**) • DTV-TX03-US Digital TV Transmitter (**FG1410-03**) • MAX-CSE Encoder (**FG2178-70**) for Live MPEGs channels • NetLinx Integrated Controllers • Dell PowerConnect 2824 network switch

Video on Demand Server

The following table lists the specifications for the Vision^2 Video on Demand server (**FG3100-02**):

Vision^2 Video on Demand Server Specifications	
Processor:	1 Intel® E5500 Xeon® 5500 series processor
Memory:	12GB Memory (12x1GB), 1333MHz Single Ranked LV RDIMMs
Storage:	• 2 300GB 15K RPM SA SCSI 6Gbps 3.5in Hotplug Hard Drives • 4 1TB 15K RPM SATA 3.5" Hot Plug Hard Drives
Power:	High Output Power Supply Non-Redundant, 870W
Front Panel Components:	
USB ports	2 USB 2.0 ports for mouse, keyboard, or external peripheral devices
Video connector	1 15-pin (female) video connector for connecting a video output device such as a PC monitor
LCD panel	Displays system ID, status info, and error messages.
Power button	Press to power on server.
DVD-ROM	DVD+/-RW, SATA, INTERNAL
Rear Panel Components:	
Video connector	1 15-pin (female) video connector for connecting a video output device such as a PC monitor
Serial connector	1 9-pin (male) serial connector
SAS connector	4 SAS connectors for connection to the archive
USB port	2 USB 2.0 ports for mouse, keyboard, or external peripheral devices
LAN connectors	4 RJ-45 LAN ports for connecting to a network router (10/100/1000 Ethernet)
Rack Mount	Sliding Ready™ rails with Cable Management arm
Operating Environment:	• Operating Temperature: 10º C to 35º C (50º F to 95º F) • Storage Temperature: -40º C to 65º C (-40º F to 149º F) • Operating Relative Humidity (non-condensing twmax=29º C): 20% to 80% non-condensing • Maximum Humidity Gradient: 10% per hour, operational and non-operational conditions • Storage Relative Humidity: 5% to 95% non-condensing (twmax=38º C)
Dimensions (HWD):	3 3/8" (8.64cm) H x 17 7/16" (44.31cm) W x 26 13/16" (68.07cm) D
Weight:	Rack Weight 57.54 lbs (26.1 kg)

NOTE

You can use the Video on Demand server as a Master server in a single-server installation. The Video on Demand server is limited to running only eight services at a given time.

NOTE

If you are updating an existing Video on Demand Server to use the V2-STORAGE-EXT800 External RAID Controller and V2-STORAGE-2400 server, you must download the newest server administrator from Dell's website (www.dell.com) and have the latest perc6i driver prior to installing the V2-STORAGE-EXT800 External RAID Controller.

MPEG Reflector Appliance

The following table lists the specifications for the V2-MPEG-REFL MPEG Reflector Appliance:

V2-MPEG-REFL Appliance Specifications	
Processor:	One Quad-Core Intel® Xeon® 3420 series processor
Memory:	2GB Memory (2x1GB), 1066MHz Single Ranked UDIMM
Storage:	250GB 7.2k RPM Serial ATA 3Gbps 3.5-in Cabled Hard Drive-Entry
Power:	Single cabled power supply (250W)
Front Panel Components:	
USB ports	2 USB 2.0 ports for mouse, keyboard, or external peripheral devices
Video connector	1 15-pin (female) video connector for connecting a video output device such as a PC monitor
Rear Panel Components:	
Serial connector	1 9-pin (male) serial connector
Video connector	1 15-pin (female) video connector for connecting a video output device such as a PC monitor
USB ports	2 USB 2.0 ports for mouse, keyboard, or external peripheral devices
LAN connectors	2 RJ-45 LAN ports for connecting to a network router (10/100/1000 Ethernet)
Rack Mount	Sliding Ready™ rails with Cable Management arm
Dimensions (HWD):	1 11/16" (4.24cm) x 17 1/8" (43.43cm) x 15 1/2" (39.37cm)
Weight:	17.76 lbs (8.058 kg)
Operating Environment:	• Operating Temperature: 10º C to 35º C (50º F to 95º F) • Storage Temperature: -40º C to 65º C (-40º F to 149º F) • Operating Relative Humidity (non-condensing twmax=29º C): 20% to 80% non-condensing • Maximum humidity gradient: 10% per hour, operational and non-operational conditions • Storage Relative Humidity: 5% to 95% non-condensing (twmax=38º C)

Dealer Demo System Specifications

The following table lists the specifications for the V2-DLR-DEMO-SFF Dealer Demo Server:

V2-DLR-DEMO-SFF Dealer Demo Server Specifications	
Power:	100-240VAC, 1.5A, 50/60Hz 90W (20V, 4.5A) AC Adapter
Enclosure:	SECC with black matte finish
Front Panel Components:	
Status	Blue LED indicates power status
Power Switch	Turns power on/off.
USB ports	2 Type-B USB 2.0 ports for connecting USB mouse and keyboard
Rear Panel Components:	
Power connector	90W (20V, 4.5A) AC Adapter Input Voltage AC 100-240V ***Note:*** *Isolate IT Power System Connection.*
USB ports	4 Type-B USB 2.0 ports
LAN port	RJ-45 LAN port provides Gigabit Ethernet communication
Audio Out	Provides stereo audio output ***Note:*** *The Audio in (blue) and Microphone (red) connectors are not used.*
Serial Port	Provides serial control over devices which support RS-232 commands.
HDMI Video Out	Provides HDMI video output to the display, via an HDMI cable.
VGA Video Out	Provides VGA video output to the display
e-SATA	Reserved for future use
Dimensions (HWD):	6 9/16" (16.6 cm) H x 1 7/8" (4.8 cm) W x 6 7/16" (16.4cm) D
Weight:	2.85 lbs (1.3 kg)
Operating Environment:	• Operating Temperature: 0º C to 50º C (32º F to 122º F) • Storage Temperature: -30º C to 60º C (-22º F to 140º F) • Relative Humidity: 90% RH (45º C non-condensing)

The following table lists the specifications for the V2-DLR-DEMO-1RU Dealer Demo Server:

V2-DLR-DEMO-1RU Dealer Demo Server Specifications	
Processor:	One Quad-Core Intel® Xeon® 3420 series processor
Memory:	2GB Memory (2x1GB), 1066MHz Single Ranked UDIMM
Storage:	250GB 7.2k RPM Serial ATA 3Gbps 3.5-in Cabled Hard Drive-Entry
Power:	Single cabled power supply (250W)
Front Panel Components:	
USB ports	2 USB 2.0 ports for mouse, keyboard, or external peripheral devices
Video connector	1 15-pin (female) video connector for connecting a video output device such as a PC monitor
Rear Panel Components:	
Serial connector	1 9-pin (male) serial connector
Video connector	1 15-pin (female) video connector for connecting a video output device such as a PC monitor
USB ports	2 USB 2.0 ports for mouse, keyboard, or external peripheral devices
LAN connectors	2 RJ-45 LAN ports for connecting to a network router (10/100/1000 Ethernet)
Rack Mount	Sliding Ready™ rails with Cable Management arm
Dimensions (HWD):	1 11/16" (4.24cm) x 17 1/8" (43.43cm) x 15 1/2" (39.37cm)
Weight:	17.76 lbs (8.058 kg)
Operating Environment:	• Operating Temperature: 10º C to 35º C (50º F to 95º F) • Storage Temperature: -40º C to 65º C (-40º F to 149º F) • Operating Relative Humidity (non-condensing twmax=29º C): 20% to 80% non-condensing • Maximum humidity gradient: 10% per hour, operational and non-operational conditions • Storage Relative Humidity: 5% to 95% non-condensing (twmax=38º C)
Processor:	One Quad-Core Intel® Xeon® 3420 series processor
Memory:	2GB Memory (2x1GB), 1066MHz Single Ranked UDIMM

V2-PVA 15TB Powervault Storage Archive

The following table lists the specifications for the V2-PVA 15TB PowerVault Storage Archive (**FG3101-10**):

V2-PVA 15TB PowerVault Storage Archive Specifications	
Storage:	15 1TB 7.2K RPM Universal SATA 3Gbps 3.5-in HotPlug hard drives
Power:	• 488W maximum continuous; 550W peak • 90-264V • 47-63 Hz • 7.2A at 100V, 3.6A at 200V
Rear Panel Components:	
Output ports	2 SAS connectors for connection to the Video on Demand server
Expansion ports	2 SAS connectors for expansion to an additional archive server
Operating Environment:	• Operating Temperature: 10º to 35º C (50º to 95º F) • Storage Temperature: -40º to 65º C (-40º to 149º F) • Operating Relative Humidity: 20% to 80% (non-condensing) • Storage Relative Humidity: 5% to 95% (non-condensing)
Dimensions (HWD):	5 3/16" (13.11cm) H x 17 9/16" (44.63cm) W x 18 7/8" (48.01cm) D
Weight:	78 lbs (35.37 kg)

V2-STORAGE-2400 Expansion Storage

The following table lists the specifications for the V2-STORAGE-2400 Expansion Storage (**FG3102-01**):

V2-STORAGE-2400 Expansion Storage Specifications	
Storage:	12 2TB 7.2K RPM NL SAS 6Gbps 3.5in HotPlug Hard Drives
Power:	• 488W maximum continuous; 550W peak • 90-264V • 47-63 Hz • 7.2A at 100V, 3.6A at 200V
Rear Panel Components:	
Output ports	2 SAS connectors for connection to the Video on Demand server
Expansion ports	2 SAS connectors for expansion to an additional archive server
Operating Environment:	• Operating Temperature: 10º to 35º C (50º to 95º F) • Storage Temperature: -40º to 65º C (-40º to 149º F) • Operating Relative Humidity: 8% to 85% (non-condensing) • Storage Relative Humidity: 5% to 95% (non-condensing) • 1181 BTU per hour
Dimensions (HWD):	3 7/16" (8.7 cm) H x 19" (48.2 cm) W x 23 3/8" (59.4 cm) D
Weight:	62.6 lbs (28.39 kg)

Please note that the V2-STORAGE-2400 is only compatible with one of the following:

- V2-VOD-1000 Vision^2 Video on Demand Server (FG3100-06K)
- V2-VOD-SERVER (FG3100-05K) with V2-STORAGE-EXT800 Vision^2 External RAID Controller (FG3102-02) installed. For information about installing the V2-STORAGE-EXT800 RAID Controller, see the *Installing the V2-STORAGE-EXT800 External RAID Controller* section on page 29.

STB-02SB and STB-03CC Set-Top Boxes

The following table lists the specifications for the STB-02SB (**FG3100-61**) and STB-03CC (**FG3100-62**) Set-Top Boxes:

STB-02SB and STB-03CC Set-Top Box Specifications	
Memory:	32MB Flash, 192MB RAM
Power:	• 5V DC at 1.5A via external power supply • Less than 8W typical usage (external supply input voltage 100-240V AC 50-60Hz 0.8A max)
Front Panel LED:	Power on IR command received (Red)
Rear Panel Components:	
Power connector	1 connector port for a 5V DC at 1.5A power supply
LAN ports	2 LAN 10/100 BaseT via RJ-45 shielded connectors
USB port	1 Type-A USB 2.0 port for peripheral connections
HDMI port	1 HDMI 1.2a with HDCP port
SPDIF port	1 S/PDIF(optical) port
AUDIO VISUAL port	1 10-way Mini-DIN for Composite video, Component (YPrPb), RGB, S-Video, and analog audio
IOIOIO port	1 IR extender and TVI port
Codecs:	• MPEG-2 MP@HL • MPEG-4 pt10 AVC/H.264 HP@L4
Video Resolution:	Up to 720p and 1080i
Graphics Resolution:	HD graphics up to 1280x720
Audio:	• Analog stereo audio out • Stereo and Dolby 5.1 surround via S/PDIF and HDMI • Dolby Digital pass through to external decoder
Operating Environment:	• Operating Temperature: 10º to 35º C (50º to 95º F) • Storage Relative Humidity: 5% to 95% (non-condensing)
Dimensions (HWD):	1 9/16" (4cm) H x 5 1/2" (14cm) W x 4 1/2" (11.4cm) D
Weight:	1.05 lbs (0.48 kg)
Included Accessories:	• 1 Amino Universal Remote Control • 1 Amino Configuration Keyboard (**FG3100-63**)

STB-04 Set-Top Box

The following table lists the specifications for the STB-04 Set-Top Box (**FG3100-65**):

STB-04 Set-Top Box Specifications	
Memory:	128MB Flash, 256MB RAM
Power:	• 5V DC at 1.5A via external power supply • Less than 8W typical usage (external supply input voltage 100-240V AC 50-60Hz 3A max)
Front Panel LED:	Power on/IR command received (Red)
Rear Panel Components:	
Power connector	1 connector port for a 5V DC at 3A power supply
LAN ports	1 x Ethernet 10/100 BaseT via RJ-45 shielded connector
USB port	1 Type-A USB 2.0 port for peripheral connections
HDMI port	1 HDMI 1.3a with HDCP and CEC port
SPDIF port	1 S/PDIF(optical) port
AUDIO VISUAL port	1 10-way Mini-DIN for Composite video, Component (YPrPb), RGB, S-Video, and analog audio
IOIOIO port	1 IR extender and TVI port
Codecs:	• MPEG-2 MP@HL • MPEG-4 pt10 AVC/H.264 HP@L4
Video Resolution:	Up to 720p and 1080i. Displays up to 1080p.
Graphics Resolution:	HD graphics up to 1280x720
Audio:	• Analog stereo audio out • Stereo and Dolby 5.1 surround via S/PDIF and HDMI • Dolby Digital+ pass through to external decoder
Operating Environment:	• Operating Temperature: 0º to 40º C (32º to 104º F) • Storage Relative Humidity: 5% to 95% (non-condensing)
Dimensions (HWD):	1 9/16" (4cm) H x 5 1/2" (14cm) W x 4 1/2" (11.4cm) D
Weight:	0.70 lbs (0.32 kg)
Included Accessories:	• 1 Amino Universal Remote Control • 1 Amino Configuration Keyboard (**FG3100-63**)

Network Switch Requirements

Vision^2 requires a Gigabit layer 2/3 network switch with IGMP Snooping/Querier support. Your network switch should have the following requirements:

Network Switch Requirements	
Physical Interfaces:	RJ-45 connectors for 10Base-T, 100Base-TX, 1000Base-T with 8, 16, 24, or 48 ports.
Layer 2 Services:	• IGMP Snooping V1 or V2 (Not router dependant for operation) • IGMP Querier • Layer 2/3 switching • Spanning Tree Protocol (STP)
Security:	• QoS • Storm Control Broadcast and Multicast
Performance Specifications:	Jumbo frame support
Switching Capacity:	Non Blocking 32Gbps (16Port) - 140Gbps (48Port)
Forward Rate:	24Mpps (16Port) - 96Mpps (48Port)
Internet Protocol:	IPv4 or IPv6
Optional:	• VLAN support • Web User Interface

Wiring and Device Connections

Master Server Rear Panel Connections

This section details the ports and connectors on the rear panel of the Vision^2 Master server.

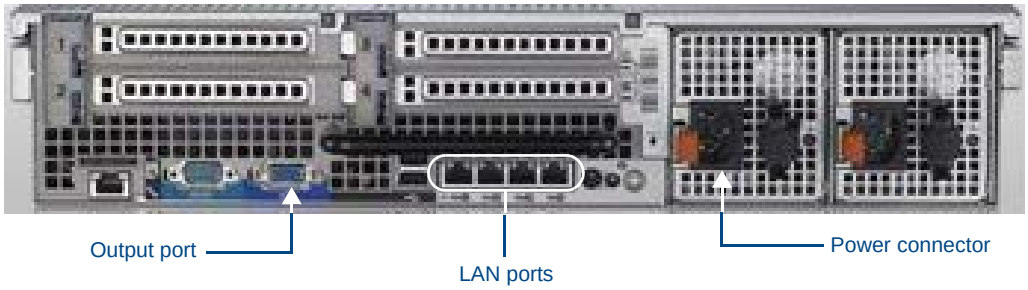


FIG. 2 Vision^2 Master server rear panel

NOTE

Some rear panel connectors are not available with certain solutions. See the Overview section on page 1 *for information on the options included with your solution.*

LAN (RJ-45) Port

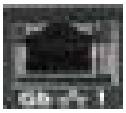


FIG. 3 LAN (RJ-45) Port

FIG. 4 describes the blink activity for the LAN 10/100/1000 Base-T RJ-45 connector and cable.

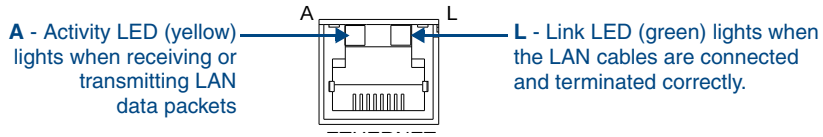

A
L
A - Activity LED (yellow) lights when receiving or transmitting LAN data packets
L - Link LED (green) lights when the LAN cables are connected and terminated correctly.

FIG. 4 LAN connector / LEDs

NOTE

To prevent multicast traffic from flooding your network, use LAN port 2 as the Vision^2 client side multicast interface.

The following table lists the pinouts, signals, and pairing associated with the LAN connector.

LAN RJ-45 Pinouts and Signals				
Pin	*Signals*	*Connections*	*Pairing*	*Color*
1	TX +	1 --------- 1	1 --------- 2	Orange-White
2	TX -	2 --------- 2		Orange
3	RX +	3 --------- 3	3 --------- 6	Green-White
4	no connection	4 --------- 4		Blue
5	no connection	5 --------- 5	4 --------- 5	Blue-White
6	RX -	6 --------- 6		Green
7	no connection	7 --------- 7	7 --------- 8	Brown-White
8	no connection	8 --------- 8		Brown

FIG. 5 diagrams the RJ-45 pinouts and signals for the LAN RJ-45 connector and cable.

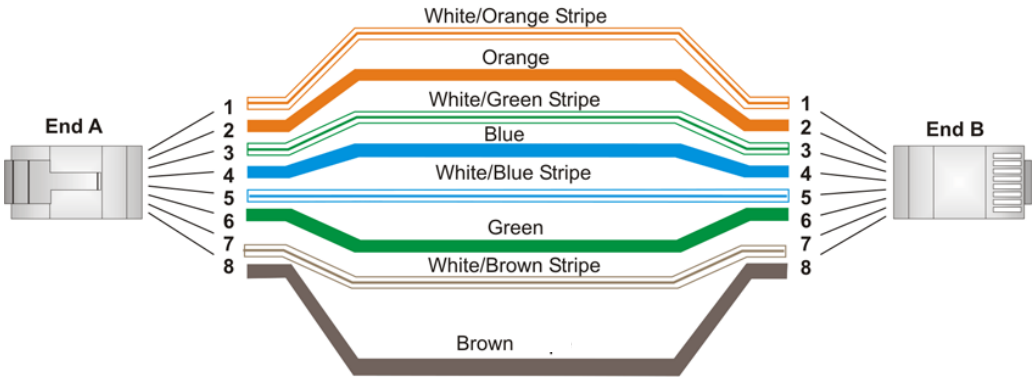


FIG. 5 RJ-45 wiring diagram

NOTE

Vision^2 uses typical Cat5/5e/6 cabling for RJ-45 connections.

WMV Appliance Rear Panel Connections

This section details the ports and connectors on the rear panel of the Vision^2 WMV appliance:

HD-15 Port

The HD-15 input connector is used for WMV source streams.

NOTE

Use the male HD-15 port for WMV source streams. The female HD-15 port is available for an output device such as a PC monitor.

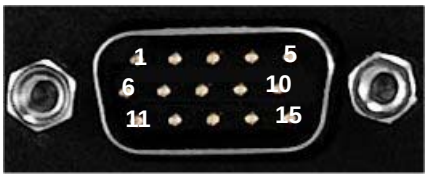
FIG. 6 displays the location of the HD-15 WMV port on the rear of the Vision^2 WMV appliance.

FIG. 6 WMV port (WMV appliance)

The following tables list the HD-15 connector pinouts for WMV streams.

HD-15 Connector Pinouts

Pin	*Signal*	*Function*
1	Red	Red signals
2	Green	Green signals
3	Blue	Blue signals
4	Sense 2	Monitor ID bit 2
5	GND	Signal Ground
6	RAGND	Red analog ground
7	GAGND	Green analog ground
8	BAGND	Blue analog ground
9	N/A	Not used
10	SAGND	Synchronization analog ground
11	Sense 0	Monitor ID bit 0
12	Sense 1	Monitor ID bit 1
13	HSYNC	Horizontal synchronization signal
14	VSYNC	Vertical synchronization signal
15	Sense 3	Monitor ID bit 3



The following table lists the pinout configuration for HD-15 connector to S-Video connectors:

HD-15 to S-Video Pinouts		
HD-15 Pin	*S-Video Signal*	*S-Video Connector Pin*
1		
2	Luminance (Y)	3
3	Chrominance (C)	4
4		
5		
6		
7	Luminance (Y) - Return	1
8	Chrominance (C) - Return	2
9		
10		
11		
12		
13		
14		
15		

The following table lists the pinout configuration for HD-15 connector to Component (RGB) or Composite connectors:

HD-15 to Component (RGB) or Composite Pinouts				
HD-15 Pin	*Component Signal*	*Red RCA*	*Green RCA*	*Blue RCA*
1	Pr signal	center pin		
2	Y signal		center pin	
3	Pb signal			center pin
4				
5				
6	Pr - Return	shield		
7	Y - Return		shield	
8	Pb - Return			shield
9				
10				
11				
12				
13				
14				
15				

The WMV appliance also includes a set of two RJ-45 LAN ports identical to the ports found on the Master server. See *LAN (RJ-45) Port* section on page 15 for information on the port and wiring cables for it.

Vision^2 TDS

Vision^2 TDS provides multiple live Digital Video Broadcast (DVB) or MPEG channels over a standard IP network for up to 150 users for each type of channel. See the *Vision2 TDS* section on page 26 for information on setting up your Digital TV appliance. See *LAN (RJ-45) Port* section on page 15 for information on wiring cables for the port.

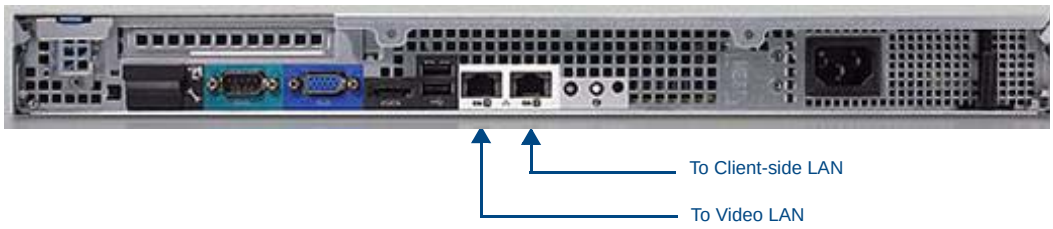


FIG. 7 Digital TV appliance (rear panel)

Vision^2 PowerVault Drive Array Rear Panel Connections

This section details the ports and connectors on the rear panel of the Vision^2 PowerVault Drive Array:

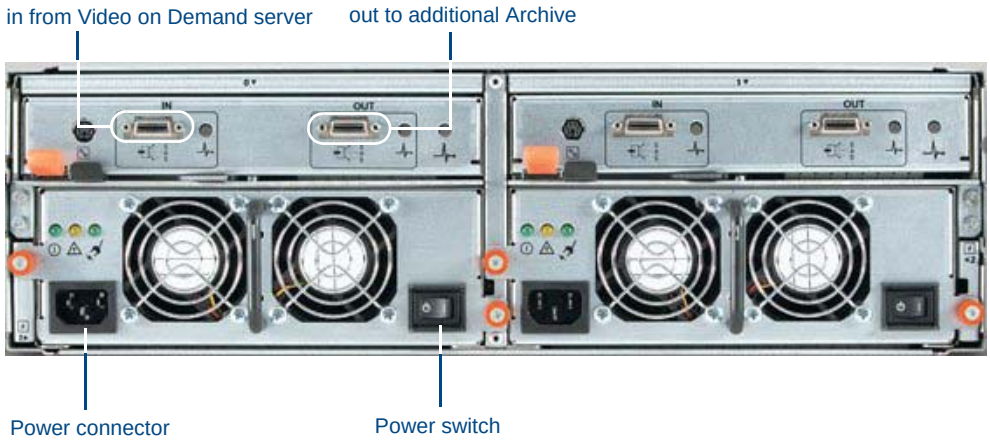


FIG. 8 Vision^2 PowerVault Drive Array (rear panel view)

Use an external 4x SAS connector to connect the SAS ports on the rear of the PowerVault Drive Array to the SAS ports on the rear of the Archive Video on Demand server or to an additional PowerVault Drive Array.

FIG. 9 displays the rear panel of the V2-STORAGE-2400 Expansion Storage device:

FIG. 9 V2-STORAGE-2400 Expansion Storage (rear panel view)

Set-Top Boxes

The STB-02SB (**FG3100-61**), STB-03CC (**FG3100-62**), and STB-04 Set-Top Boxes (**FG3100-65**) support viewing live programming via a producer channel or a MPEG encoder. The set-top boxes access your Vision^2 server and display available programming on a connected video source. The set-top boxes are used only for MPEG content. They support viewing MPEG Video on Demand, but support only Stop, Play, and Pause features.

FIG. 10 STB-02SB Set-Top Box

FIG. 11 displays the rear panel of the STB-02SB and STB-03CC Set-Top boxes.

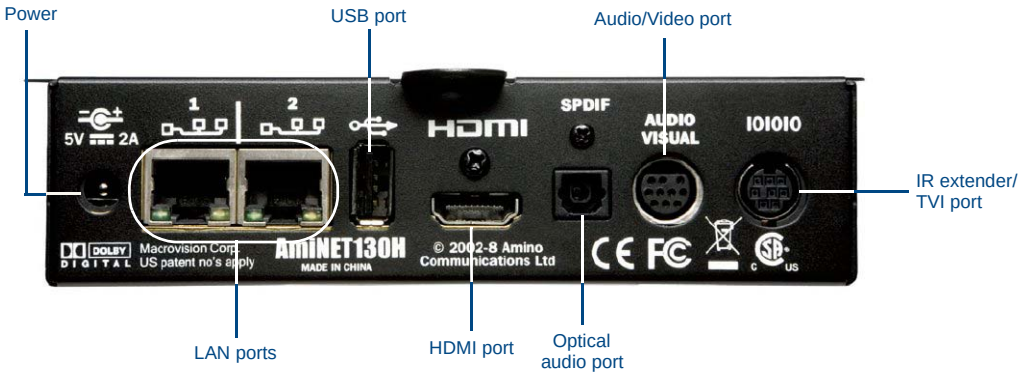


FIG. 11 STB-02SB and STB-03CC Set-Top Box (rear-view)

NOTE

The Set-Top Boxes have a limit of 18Mbps. Heavy traffic loads can cause the set-top box to reset itself periodically.

FIG. 12 displays the rear panel of the STB-04 Set-Top box.

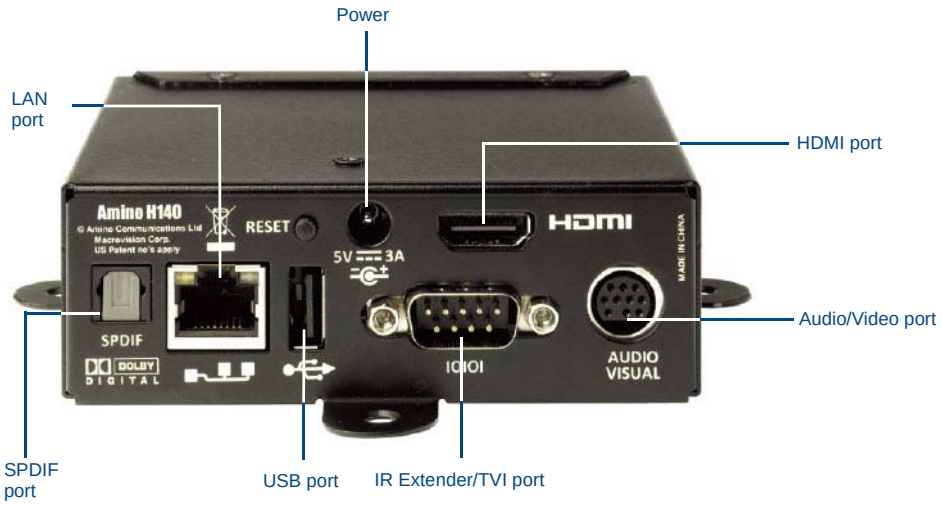


FIG. 12 STB-04 Set-Top Box (rear-view)

Installation

This chapter provides instructions on how to connect the different types of Vision^2 systems and servers.

Dealer Demo Systems

The V2-DLR-DEMO-1RU Dealer Demo System (FG3100-D1K) provides two live MPEG channels and two live Digital Video Broadcasting - Terrestrial (DVB-T) multiplexes for up to 10 users over a standard IP network. The Dealer Demo Solution includes:

- 1 Vision^2 1RU Dealer Demo Appliance
- 2 Live DVB-T multiplexes
- 2 Live MPEG streams
- 1 Producer Channel (MPEG)
- 1 Record Channel (MPEG)
- 1 Archive (up to 2 Video on Demand users)

The V2-DLR-DEMO-SFF Dealer Demo System (**FG3100-D2K**) provides one live MPEG channel and one live Digital Video Broadcasting - Terrestrial (DVB-T) multiplex for up to 10 users over a standard IP network.

The Dealer Demo Solution includes:

- 1 Vision^2 SFF Dealer Demo Appliance
- 1 Live DVB-T multiplex (with support for locally stored TS demo content)
- 1 Live MPEG stream
- 1 Producer Channel (MPEG)
- 1 Record Channel (MPEG)
- 1 Archive (1 Video on Demand user)

On the V2-DLR-DEMO-SFF system, only one service running at a single time is supported.

The following steps show you how to setup a typical configuration for the Dealer Demo Systems.

1. Connect the power supply to the rear of the Dealer Demo server.
2. Connect an RJ-45 LAN cable to LAN port one on the back of the Dealer Demo server. See FIG. 13 and FIG. 14 for connection locations for each type of Dealer Demo server. Connect the other end of the cable to a Gigabit port on a layer 3 network switch.

NOTE

Vision^2 uses typical Cat5/5e/6 cabling for RJ-45 connections.

FIG. 13 displays the connection locations for the VS-DLR-DEMO-SFF server.

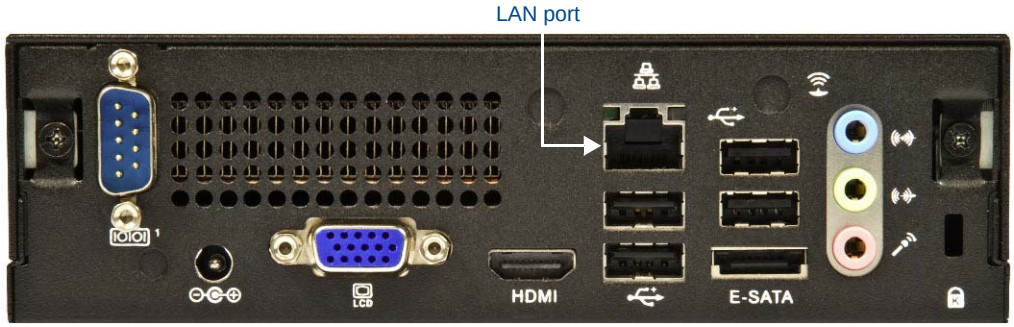


FIG. 13 V2-DLR-DEMO-SFF Dealer Demo Server (rear-view)

NOTE

The V2-DLR-DEMO-SFF system only has one RJ-45 LAN connection.

FIG. 14 displays the connection locations for the VS-DLR-DEMO-1RU server.

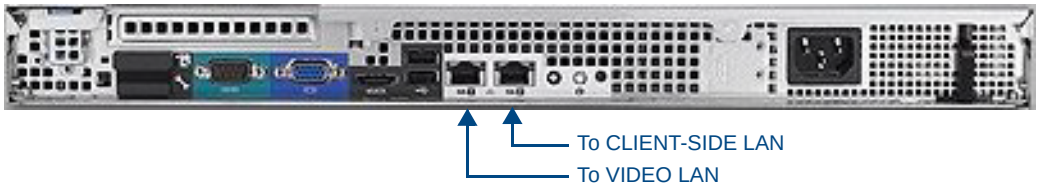


FIG. 14 V2-DLR-DEMO-1RU Dealer Demo Server (rear-view)

3. Connect an RJ-45 LAN cable to the Ethernet port on your encoder. Connect the other end of the cables to any of the ports on your network switch.
4. Connect a composite or S-video cable to the corresponding ports on your encoder. Connect the other end of the cables to a device capable of producing a video signal. The encoder converts the video signals into MPEG-2 multicast streams.

WMV Solution

The following steps show you how to setup a typical configuration for the WMV Solution:

1. Connect the power supply to the power connector on the rear of the Vision^2 Master server (FIG. 15).

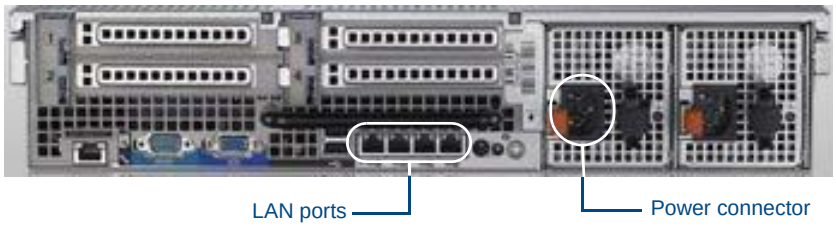


FIG. 15 Vision^2 Master server (rear-view)

2. Connect an RJ-45 LAN cable to LAN port one on the back of the Vision^2 Master server. Connect the other end of the cable to a Gigabit port on a layer 3 network switch.

NOTE

To prevent multicast traffic from flooding your network, use LAN port 2 as the Vision^2 client side multicast interface.

3. Connect an RJ-45 LAN cable to LAN port one on the back of the WMV appliance (FIG. 16). Connect the other end of the cable to Gigabit ports on a layer 3 network switch.

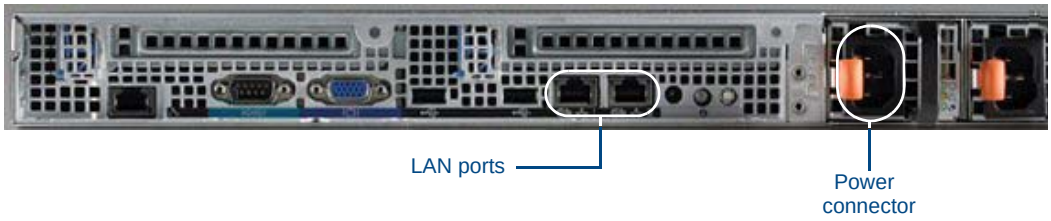


FIG. 16 WMV appliance (rear panel)

4. Connect breakout cables to the HD-15 ports on the WMV capture cards at the rear of the WMV appliances. Connect the other end of the cables to a Windows Media Video (WMV) source. The breakout cable provides connections for Composite, S-Video, and Component video, in addition to balanced and unbalanced stereo audio.
5. Repeat steps 3 and 4 for each additional WMV appliance you have in your solution.

MPEG Solution

The following steps show you how to setup a typical configuration for the MPEG Solution:

1. Attach the power supply to the power connector on the rear of the server (FIG. 15).
2. Connect an RJ-45 LAN cable to one of the LAN ports on the back of the Vision^2 Master server. Connect the other end of the cable to your network switch.

NOTE

To prevent multicast traffic from flooding your network, use LAN port 2 as the Vision^2 client side multicast interface.

3. Attach an RJ-45 LAN cable to the LAN port on the rear of the MAX-CSE encoder. Attach the other end of the cables to the ports on your LAN switch.
4. Attach a composite or S-Video cable to the corresponding ports on the rear of the MAX-CSE encoder. Attach the other end of the cables to a device capable of producing a video signal. The MAX-CSE encodes the video signals into MPEG-2 multicast streams.

NOTE

Consult the MAX-CSE/MAX-CSD10 Operation/Reference Guide for information on configuring your MAX-CSE Encoder.

5. Repeat steps 3 and 4 for each additional MAX-CSE encoder you have in your solution.

Vision^2 TDS

Vision^2 TDS provides multiple live Digital Video Broadcast (DVB) or MPEG channels over a standard IP network for up to 150 users for each type of channel. See *LAN (RJ-45) Port* section on page 15 for information on wiring cables for the port.

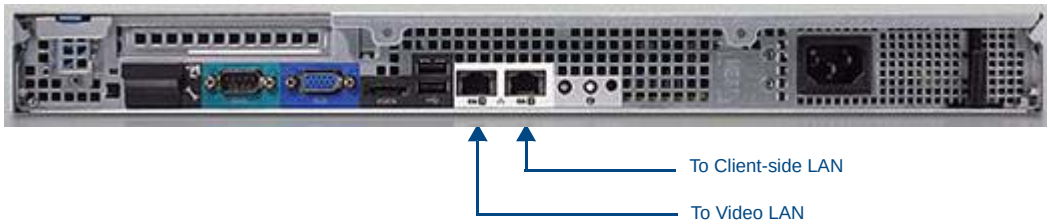


FIG. 17 Digital TV appliance (rear panel)

DVB Installation

The following steps show you how to setup a typical DVB configuration for Vision^2 TDS.

1. Connect the power supply to the rear of the Digital TV appliance.
2. Connect an RJ-45 LAN cable to LAN port two on the back of the Digital TV appliance (FIG. 17). Connect the other end to your Video LAN.

NOTE

Vision^2 uses typical UTP/STP cabling for RJ-45 connections.

3. Connect an RJ-45 LAN cable to your Video LAN. Connect the other end of the cable to ETHERNET 10/100 port on the front panel of a digital TV transmitter (FIG. 18).

FIG. 18 DTV-TX01-DVB-T Transmitter - Front Panel

NOTE

The DTV-TX01-DVB-T transmitter (FG1410-01) supports DVB-T (terrestrial) signals. The DTV-TX02-DVB-S transmitter (FG1410-02) supports DVB-S (satellite) signals. Each features RF 1/2 OUT output connectors to allow multiple streams for maximum channel coverage.
The DTV-TX03-US transmitter (FG1410-03) receives incoming ClearQAM or ATSC digital TV signals. Consult the AMX TDS Operation/Reference Guide for information on using the various digital TV transmitters available from AMX.

4. Connect a coaxial cable to the RF IN connector on the rear of the digital TV transmitter (FIG. 19). Connect the other end of the cable to an available DVB source. If you are using the DTV-TX03-US transmitter, use the RCA-to-Coax adapter provided with the transmitter when connecting the coaxial cable to the TUNER IN connector on the rear of the unit.

FIG. 19 DTV-TX01-DVB-T Transmitter - Rear Panel

Repeat steps 3 and 4 for each DVB transmitter in your Vision^2 solution.

Live MPEG Installation for Vision^2 TDS

The following steps show you how to setup a typical Live MPEG configuration for Vision^2 TDS.

1. Connect the power supply to the rear of the Digital TV appliance.
2. Connect an RJ-45 LAN cable to LAN port one on the back of the Digital TV appliance (FIG. 17). Connect the other end to your Client-side LAN.
3. Connect an RJ-45 LAN cable to the LAN port on the rear of the MAX-CSE encoder. Connect the other end of the cables to any of the ports on your client-side LAN switch.
4. Connect a composite or S-video cable to the corresponding ports on the rear of the MAX-CSE encoder. Connect the other end of the cables to a device capable of producing a video signal. The MAX-CSE encodes the video signals into MPEG-2 multicast streams.

Repeat steps 3 and 4 for each additional MAX-CSE encoder you have in your Vision^2 solution.

Archive Servers

Vision^2 Archive servers allow you to store and manage videos in Flash, WMV, MPEG-2, and MPEG-4 format for future use. The stored content can then be used to build your own channel and/or allow users to access it with Video on Demand. Vision^2 Archive has an integrated search feature that allows you to find content based on titles and metadata. See the *Archive Service* section on page 85 for more information.

NOTE

Older model Video on Demand servers may require you to install the V2-STORAGE-EXT800 External RAID Controller to be able to connect to the V2-STORAGE-2400 server.

The following steps show you how to add an additional 15TB or 24TB of Disk storage to an existing archive server:

1. Connect an SAS cable to the IN port on the rear of the V2-PVA (FIG. 20) or V2-STORAGE-2400 Expansion Storage device (FIG. 21). Connect the other end of the cable to the first SAS port on the rear of the Archive Video on Demand server.

FIG. 20 Vision^2 Archive/Video on Demand server with V2-PVA (rear-view)

FIG. 21 V2-STORAGE-2400 Expansion Storage (rear-view)

2. Log in to the Admin server (see the *Starting and Accessing Vision2* section on page 47 for more information.)
3. Select **Storage**.
4. Set the archive server to the I: drive.

The Archive Video on Demand server must have LDAP enabled and configured prior to importing it into a Master so a client can access the archives on the Video on Demand server. See the *Configuring Vision2 for use with LDAP* section on page 63 for more information.

Installing the V2-STORAGE-EXT800 External RAID Controller

WARNING

Before installing the V2-STORAGE-EXT800 External RAID Controller, be sure to discharge any static electricity from your body by touching a grounded object.

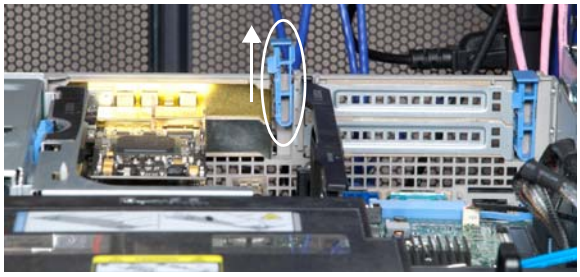
Follow these steps to install the V2-STORAGE-EXT800 External RAID Controller:

1. Power off the V2-VOD-SERVER.
2. Unlock the cover of the server by flipping up the locking mechanism located on the cover of the server toward the front of the device.

lift security latch upward to unlock server cover

FIG. 22 Front cover locking mechanism

3. With the cover unlocked, lift it upward and remove it from the device.
4. On the rear of the server, pull upward on the blue locking tab which holds the existing card in place to unlock the card.



lift locking tab

FIG. 23 Locking tab

5. Remove the existing card from the server and set it aside.
6. Install the V2-STORAGE-EXT800 External RAID Controller in the newly-available card slot inside the server.

NOTE

When installing the V2-STORAGE-EXT800 External RAID controller card, you must replace the existing PERC 6/E controller card. Do not install the V2-STORAGE-EXT800 card in an empty slot with the PERC 6/E card still in use. A server using both types of cards at the same time may not function properly.

7. Press down on the blue locking tab to lock the cards back into place.
8. Replace the cover on the server and ensure that the cover lock is fastened securely after closing the lid.

NOTE

Be sure to download the newest server administrator from Dell's website (www.dell.com) and have the latest PERC 6/E driver prior to installing the RAID Controller. Also be sure to check for any updated BIOS or driver updates for the card.

Set-Top Boxes

The STB-02SB (**FG3100-61**), STB-03CC (**FG3100-62**), and STB-04 (**FG3100-65**) Set-Top Boxes support viewing live programming via a producer channel or an MPEG encoder. The set-top boxes access your Vision^2 server and display available programming on a connected video source. The set-top boxes are used only for MPEG content. They support viewing MPEG Video on Demand, but support only Stop, Play, Pause, Fast Forward, and Rewind features.

FIG. 24 displays the rear panel of the STB-02SB Set-Top box.

FIG. 24 STB-02CC Set-Top Box (rear-view)

NOTE

The Set-Top Boxes have a limit of 18Mbps. Heavy traffic loads can cause the set-top box to reset itself periodically.

FIG. 25 displays the rear panel of the STB-04 Set-Top box.

FIG. 25 STB-04 Set-Top Box (rear-view)

Configuring Your Set-Top Box

Before you can use your set-top box to view a video source, you must configure it to access your Vision^2 server. You can use the Amino Configuration Keyboard included with your set-top box to access the configuration pages for the unit. The keyboard is wireless and communicates with the set-top box via IR signal. Position the keyboard within a short range (1-3 ft or 0.3-1m) of the front of the set-top box before getting started.

Perform these steps to configure your set-top box:

1. Connect the power supply to the power connector on the rear of the unit.
2. Choose one of the following methods to connect the set-top box to your audio and video sources:
   - Use an HDMI cable to connect the HDMI port on the set-top box to an HDMI port on your video source. HDMI also transmits an audio signal in addition to video.
   - Use a breakout cable to connect the AUDIO VISUAL port on the set-top box to your audio and video sources. In place of connecting the breakout cable to your audio source, you can connect an optical audio cable from the SPDIF port on the set-top box to your audio source.
3. Connect an RJ-45 LAN cable to LAN port 1 on the rear of the unit. The other end of the cable connects to your LAN. This connection accesses your Vision^2 server and uploads the latest firmware and Vision^2 menus to the set-top box.

NOTE

LAN port 1 connects to your LAN. You can use LAN port 2 for a loop-out to an additional set-top box.

4. Assure the keyboard is within range of the front of the set-top box, and press **Alt-M** to access the Enter Management Pages screen (FIG. 26).

FIG. 26 Enter Management Pages screen

NOTE

The setup pages vary in appearance depending on whether you are using the STB-02SB, STB-03CC, or STB-04 set-top box. This document displays the setup pages for the STB-02SB and STB-03CC. While the appearance may be different between set-top boxes, functionality is the same.

5. In the Password field, enter the password (the default is **leaves**) and press **Enter**. The STB Management screen appears (FIG. 27).

FIG. 27 STB Management screen

6. Use the arrow keys on the keyboard to access the Browser Setup option, and press **Enter**. The Browser Setup screen appears (FIG. 28).

FIG. 28 Browser Setup screen

7. Enter the address of your Vision^2 server in the **Home Page** field. See the *Starting and Accessing Vision2* section on page 47 for information on retrieving the server's address.

NOTE

If you are using the STB-04 set-top box, set the Home Page to http://<server name>/aminoh140.aspx.

8. Use the arrow keys to access the Password field, and enter the password in the space provided (the default is **snake**).
9. Use the arrow keys to highlight the **Save Changes** button, and press **Enter**.
10. Use the arrow keys to highlight **Back to Main Menu**, and press **Enter** to return to the STB Management screen.
11. Use the arrow keys to highlight **Reboot**, and press **Enter** to reboot the set-top box.

Using the Remote Control

The set-top box includes a universal remote control you can use to control your video display and navigate through the Vision^2 menus. Not all buttons on the remote work with your Vision^2 setup. While Vision^2 supports Video on Demand, you can use only the Play, Pause, Stop, Fast-Forward, and Rewind features. FIG. 29 highlights some of the buttons you can use with Vision^2 and your set-top box.

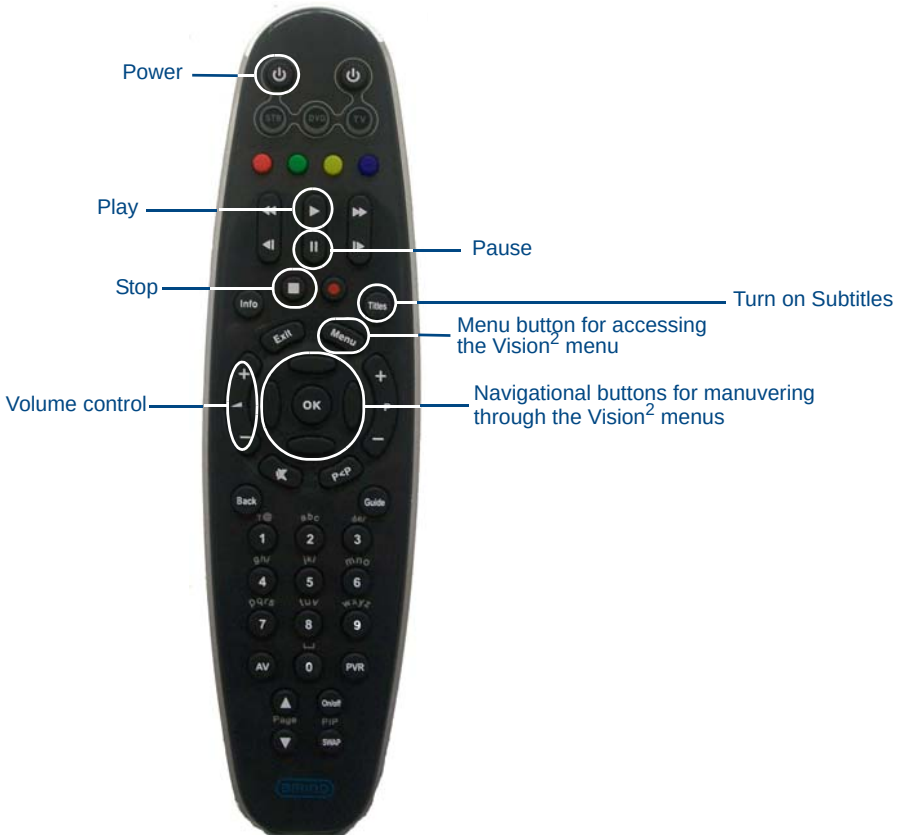


FIG. 29 Amino Remote Control

NOTE

Subtitles are only supported on DVB streams.

NOTE

If you are using an STB-04 set-top box and you receive a "failed to load webpage" error, select the OK button on the remote and, using the remote, power the set-top box off and on again. Afterward, the Vision^2 main menu loads.

STB-02SB and STB-03CC Menus

After the set-top box reboots, it accesses the Vision^2 server you indicated and downloads the latest Vision^2 menus you can use to navigate through the available channels. You can create channels and schedules through the Live (MPEG) service and Producer service. See the *Live (MPEG) Service* section on page 67 and *Producer Service* section on page 109 for more information.

NOTE

You must load the set-top box with one of the following firmware revisions:
US Solutions: *A130h-0.15.2-opera-gogi-cc*
European Solutions: *A130h-0.15.2-opera-gogi-bitband-subs*

You can access the Vision^2 menus by pressing the Menu button on the remote control. The Vision^2 Main Menu (FIG. 30) contains five options: Live TV Channels, Video on Demand, Technical Information, Configuration, and Help menus. The following sections describe each submenu and the actions you can take on each.

FIG. 30 Vision^2 Main Menu

Live TV Channels

The Live TV Channels menu displays a listing of all live channels available through the Live (MPEG) service. Use the remote control to scroll through the list of the channels and press **OK** on the remote control to select a channel. See the ***Using the Remote Control*** **section on page 33** for more information on using the remote.

FIG. 31 Live TV Channels

Video on Demand

The Video on Demand menu displays a listing of all available video on demand channels (FIG. 32).

FIG. 32 Video On Demand

Use the remote control to scroll through the list of the channels and press **OK** on the remote control to select a channel. See the ***Using the Remote Control*** **section on page 33** for more information on using the remote. FIG. 33 displays an example of video on demand programming. While viewing video on demand programming, you can use the remote control to pause or stop the video stream. Use the Play button to resume viewing a paused video stream.

FIG. 33 Video on Demand example

Technical Information

The Technical Information screen displays information about your set-top box, network, and display. This information is view-only.

FIG. 34 Technical Information

Configuration

The Configuration screen enables you to change your video display settings. On this screen, you can choose to configure your margins or display output. Use the up and down cursor buttons on the remote control to select an option, and press the OK button to open a new screen of options.

FIG. 35 Configuration screen

Margins

The Configure Margins screen enables you to adjust the position of the images on your display. Use the up and down cursor buttons on the remote control to select an option. Use the left and right cursor buttons to change the setting of the selected margin. The image on the screen moves as you increase or decrease the value of an individual margin, so you can see the results of your adjustments as you make them. Press the OK button to apply the new setting.

FIG. 36 Configure Margins screen

NOTE

Rebooting your set-top box can cause your margin settings to be reset.

Output

The Configure Output screen enables you to change the following display options: TV standard, resolution, aspect radio, and connection type.

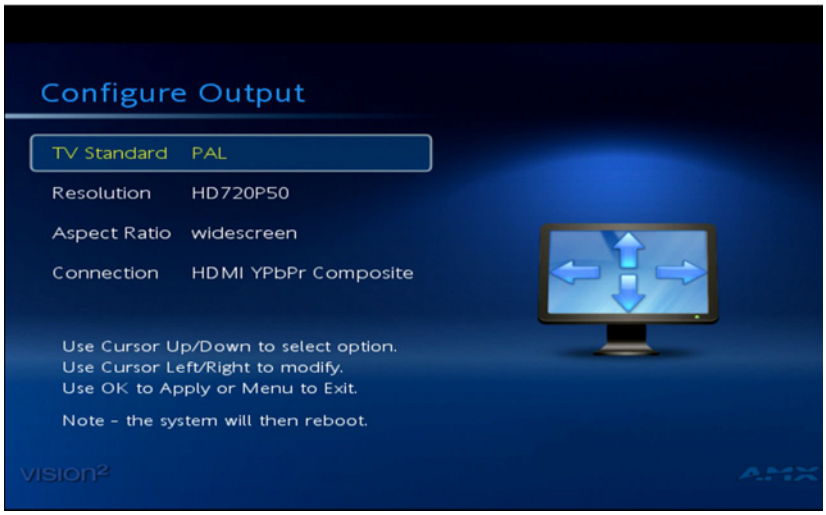


FIG. 37 Configure Output screen

The following table lists the configuration options. Use the up and down cursor buttons on the remote control to select an option. Use the left and right cursor buttons to change the setting of the selected option. Press the OK button to apply the new setting.

Configuration Options	
TV Standard	Enables you to indicate the television standard you are using. You can select NTSC or PAL.
Resolution	Enables you to select the resolution you want to display. You can select SD or any of several specific resolutions available for your display.
Aspect Ratio	Enables you to set the aspect ratio for your video display. You can select Widescreen, Letterbox, Panscan, or Ignore.
Connection	Indicates the type of connection used to transmit the video signal to the output display.

STB-04 Menus

Vision^2 contains a Template Editor application for the STB-04 which enables you to create custom user interfaces for your set-top box. The application is available to any user with server access. The application is accessible by using a web browser and navigating to the following location:

http://<server name>/tedit.aspx

NOTE

You must load the STB-04 set-top box with firmware version 2.3.4 or higher.

FIG. 38 displays the main screen you see when you access the Template Editor application.

FIG. 38 Template Editor - Main screen

The following table lists the Device and Template options available in the Template Editor. These options appear across the top of the screen.

Device and Template Options	
Device	Select a device from the available list to view its template. Any new devices you add appear in this list.
Add New Device	Click to add a new device to the template list. See *Adding a New Device to the Device List* section on page 39 for more information.
Delete Device	Click to delete the currently selected device. You will receive a confirmation warning before deleting the device.
Template	Select a template from the available list. Any new templates you create appear in this list.
Edit Template	Click to edit the template using the settings on the left side of the screen. These settings are not available until you click Edit Template.
Save Changes	Click to save any changes you make to the template. This button is only available after you click Edit Template.
Discard Changes	Click to discard any changes you make to the template and return the template to its original settings. This button is only available after you click Edit Template.
Delete Template	Click to delete the currently selected template. You will receive a confirmation warning before deleting the template.
Download	Click to load an existing template from a local or network drive.
Upload	Click to upload a template to a local or network drive. The Template Editor creates a.zip file with all necessary files included within it.
Create New Template	Click to create a new template. See the *Creating a New Template* section on page 40 for more information.

Adding a New Device to the Device List

Adding new devices to the device list is useful since each device uses specific settings geared toward each individual device. By adding a new device, you can create a series of unique templates with settings that work perfectly with that specific device.

Perform these steps to add a new device to the template list:

1. Click **Add New Device**. A series of options appears (FIG. 39).

FIG. 39 Add New Device options

2. Enter the name of the device in the **Name** field.
3. Select the type of device from the **Type** options menu. You can choose from Tablet or Amino.
4. Select the orientation view from the **Orientation** menu. You can choose from Landscape or Portrait.
5. Use the **Width** and **Height** spin boxes to set the size of the screen for the device. You can set each option to any value between 100 and 5000.
6. Click **Create** to add the device to the device list.

Creating a New Template

Perform these steps to create a new template:

1. Click **Create New Template**. A series of options appears (FIG. 40).

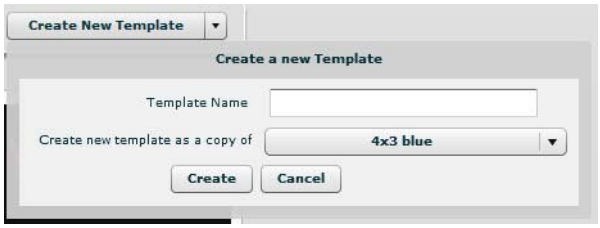


FIG. 40 Create a New Template

2. Enter the name of the template in the **Template Name** field.
3. Use the **Create new template as a copy of** options menu to select the model of template you want to use.
4. Click **Create**.

The left side of the Template Editor screen displays a list of options you can configure for an individual template. These options are only available after clicking **Edit Settings**. Changes do not take effect immediately. After making all necessary changes, click **Test** to view the changes to the template. Click **Save Changes** to save the new template settings or **Discard Changes** to return to the previous settings. FIG. 41 displays the Template Editor Settings.

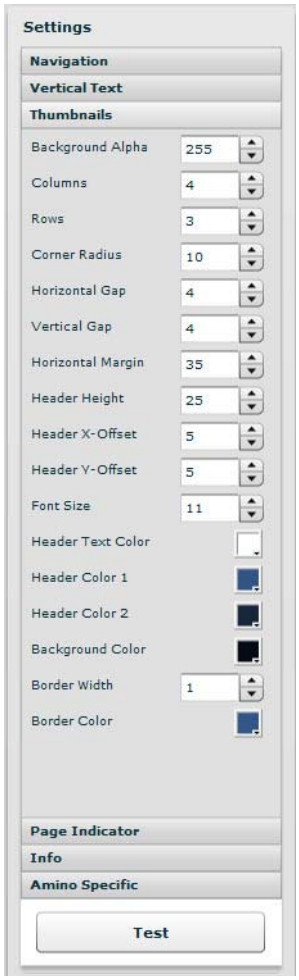


FIG. 41 Template Editor Settings

The following table lists the settings available in the Template Editor.

Template Settings	
Navigation:	
Menu Selector Color	Use the color chart to select a color for the menu selector.
Render top line navigation	Click the check box to render the text on the navigation bar.
Color	Use the color chart to select a color for the text on the navigation bar.
Font Size	Use the spin box to indicate the size of the text on the navigation bar. You can set any value between 1 and 255.
Vertical Text:	
Render	Click the check box to render the text on the left side bar.
X-Offset	Use the spin box to indicate the x-offset at which you want to align the text on the left side bar. You can set any value between 1 and 255.
Font Size	Use the spin box to indicate the size of the text on the left side bar. You can set any value between 1 and 255.
Color	Use the color chart to select a color for the text on the left side bar.
Shadow Top	Use the color chart to select a color for the top shadow of the text on the left side bar.
Shadow Bottom	Use the color chart to select a color for the bottom shadow of the text on the left side bar.
Thumbnails:	
Background Alpha	Use the spin box to indicate the alpha used to create the background gradient. You can set any value between 0 and 255.
Columns	Use the spin box to indicate the number of columns on the navigation pages. You can set any value between 1 and 255.
Rows	Use the spin box to indicate the number of rows on the navigation pages. You can set any value between 1 and 255.
Corner Radius	Use the spin box to indicate the size of the corner radius of each thumbnail. You can set any value between 1 and 255.
Horizontal Gap	Use the spin box to indicate the horizontal spacing between each thumbnail. You can set any value between 0 and 255.
Vertical Gap	Use the spin box to indicate the vertical spacing between each thumbnail. You can set any value between 0 and 255.
Horizontal Margin	Use the spin box to indicate the margin on the left and right sides of each thumbnail. You can set any value between 1 and 255.
Header Height	Use the spin box to indicate the height of the header containing the thumbnail's title. You can set any value between 1 and 255.
Header X-Offset	Use the spin box to indicate the x-offset at which you want to align the header's text. You can set any value between 1 and 255.
Header Y-Offset	Use the spin box to indicate the y-offset at which you want to align the header's text. You can set any value between 1 and 255.
Font Size	Use the spin box to indicate the size of the header text used for each thumbnail. You can set any value between 1 and 255.
Header Text Color	Use the color chart to indicate the color of the header text for each thumbnail.
Header Color 1	Use the color chart to indicate the first header color used to create a gradient fill.
Header Color 2	Use the color chart to indicate the second header color used to create a gradient fill.
Background Color	Use the color chart to indicate the color of the background for each thumbnail.
Border Width	Use the spin box to indicate the width of the border around each thumbnail. You can set any value between 0 and 255.
Border Color	Use the color chart to indicate the color of the border around each thumbnail.

Template Settings (Cont.)	
Page Indicator:	
Render	Click the check box to render the page indicator.
Font Size	Use the spin box to indicate the size of the page indicator text. You can set any value between 1 and 255.
Height	Use the spin box to indicate the height of the page indicator. You can set any value between 1 and 255.
Y-Offset	Use the spin box to indicate the y-offset at which you want to align the page indicator. You can set any value between 1 and 255.
Color	Use the color chart to indicate the color of the page indicator.
Selected Color	Use the color chart to choose the color used to indicate the selected page.
Info:	
Heading Font Size	Use the spin box to indicate the size of the heading text. You can set any value between 1 and 255.
Text Font Size	Use the spin box to indicate the size of the information text. You can set any value between 1 and 255.
Heading Color	Use the color chart to indicate the color of the heading text.
Heading Background	Use the color chart to indicate the color of the heading background.
Section Text Color	Use the color chart to indicate the color of the section text.
Background Color 1	Use the color chart to indicate the first color used to create the background gradient. ***Note:*** *The gradient values are used to create a gradient 'wash' over the main info image to allow text to be more easily visible.*
Background Alpha 1	Use the spin box to indicate the first alpha used to create the background gradient. You can set any value between 1 and 255.
Background Color 2	Use the color chart to indicate the second color used to create the background gradient.
Background Alpha 2	Use the spin box to indicate the second alpha used to create the background gradient. You can set any value between 1 and 255.
Amino Specific:	
Live Channel Highlight Color	Use the color chart to indicate the color of the selected live channel.
Live Channels caption	Use the color chart to indicate the color of the captions on the live channel.
Live Channel Text	Use the color chart to indicate the color of the text on the live channel.
VOD Progress Color	Use the color chart to indicate the color of the VoD progress bar.

FIG. 42 displays the locations of the vertical text, thumbnails, and page indicator on the user interface.

FIG. 42 User Interface Example 1

FIG. 43 displays the location of the info header on the user interface.

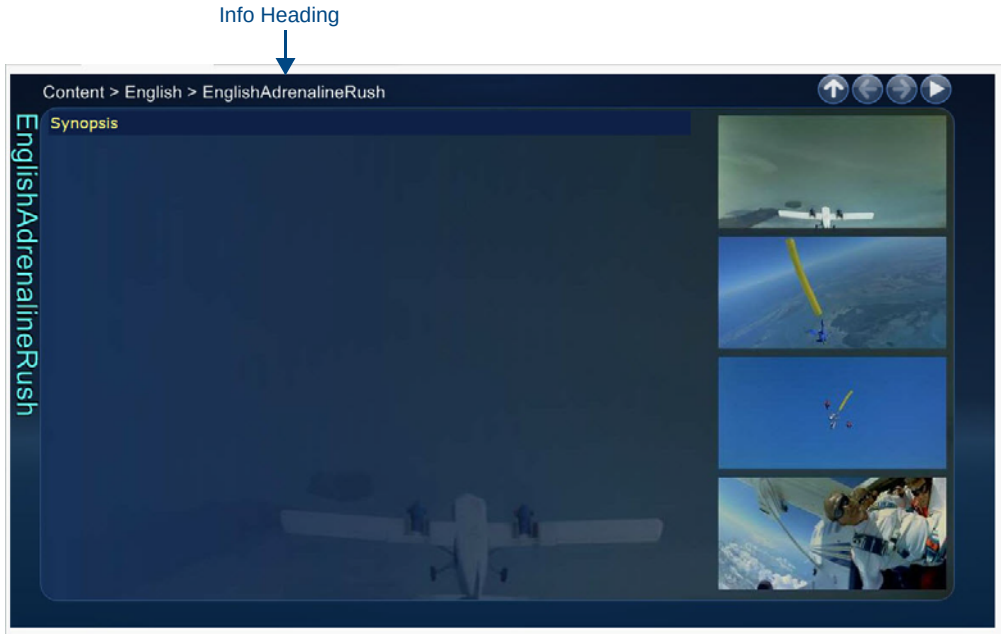


FIG. 43 User Interface Example 2

Upgrading the Vision^2 Software

Periodic upgrades will occasionally be available for the Vision^2 interface. Upgrades are available by contacting AMX Tech Support at 800-932-6993.

NOTE

Before upgrading, it is recommended that you make a copy of the server for backup purposes.

Upgrading to Vision^2 Software Version 7.1

Perform the following steps to upgrade the Vision^2 software to version 7.1:

1. Copy the *V2upgrade7-1.exe* file onto the desktop of the server.
2. Double-click the *V2upgrade7-1.exe* file to execute the script and begin the installation process (FIG. 44).

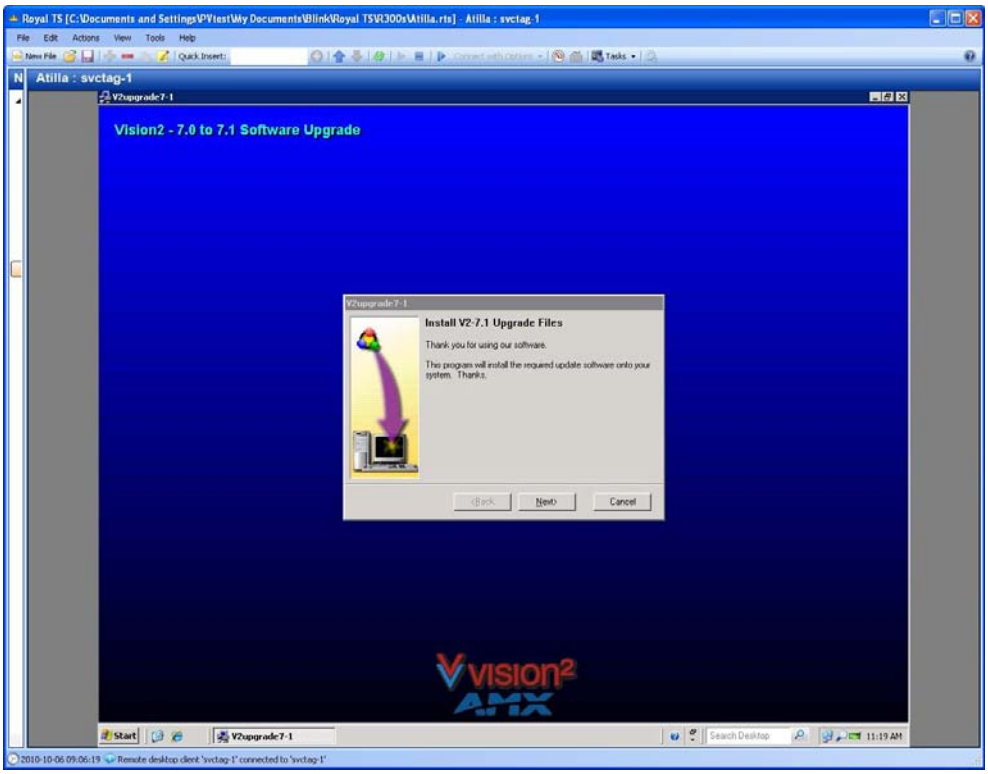

Atilla : svctag-1
Vision2 - 7.0 to 7.1 Software Upgrade
Install V2-7.1 Upgrade Files
Thank you for using our software.
This program will install the required update software onto your system. Thanks.
Next
Cancel

FIG. 44 Vision^2 Upgrade

3. Click **Next**.
4. You can use the default installation location or specify a location by clicking the **Browse (...)** button. Once you determine a location, click **Finish**. The upgrade begins to install.

5. When the upgrade is complete, navigate to the directory where the files were installed, and double-click the *Vision2Updater.exe* file. The AMX Vision^2 Updater opens (FIG. 45).

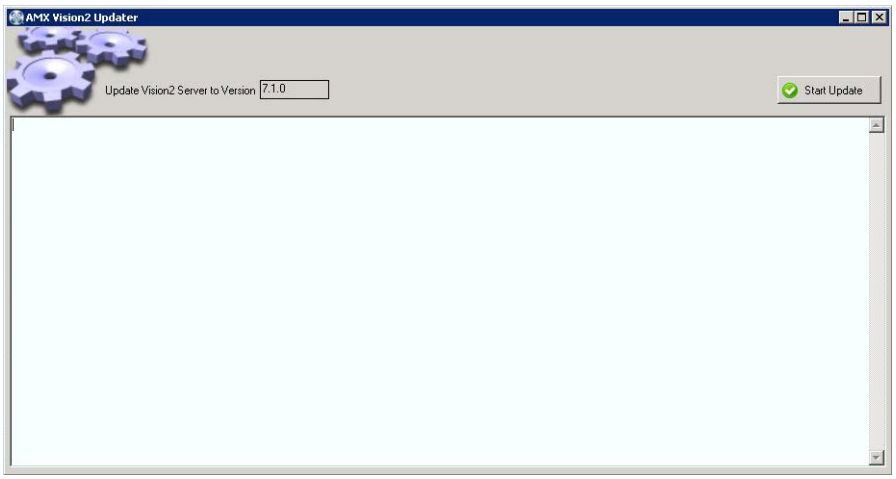


FIG. 45 AMX Vision^2 Updater

6. Click **Start Update**. Once the update begins, it may be a few minutes before you see any progress. Once the upgrade is complete, you must manually reboot the server.

Upgrading to Vision^2 Software Version 7.2

Upgrading to version 7.2 is similar to the upgrade to version 7.1, but you must download and install VLS version 1.1.11 after the 7.2 software upgrade is complete.

NOTE

You cannot upgrade Vision^2 software from version 7.0 directly to version 7.2. You must first upgrade to 7.1 before upgrading to 7.2

Perform the following steps to upgrade the Vision^2 software to version 7.2:

1. Copy the *V2-Rel7.1to7.2-upgrade.exe* file onto the desktop of the server.
2. Double-click the *V2-Rel7.1to7.2-upgrade.exe* file to execute the script and begin the installation process.
3. Follow the instructions provided in the installation window. You can use the default installation location or specify a location by clicking the **Browse (...)** button. Once you determine a location, click **Finish**. The upgrade begins to install.
4. Reboot the server when the installation is complete.
5. Download VLS version 1.1.11 from *www.videolan.org*. Install the package as a typical installation.

Accessing Servers

Overview

Vision^2 enables you to easily add and manage additional servers in the system. All Vision^2 services are managed by the Vision^2 ServicesManager web interface.

Starting and Accessing Vision^2

Perform these steps to access your server remotely:

1. Power on the Vision^2 server. It may take a few minutes to boot.
2. Test that you can access the server via the LAN. You can run this test by accessing a Command Prompt using the Ping command. For example:

   ```
   ping v2AMX-<SVCTAG>
   ```

   where `<SVCTAG>` is the service name, which you can find on the front of your server. If the server responds, continue to step 3.
3. Using a web browser on a PC with network access, navigate to *http://<servername>/admin.aspx*. The Master Services page appears (FIG. 46).

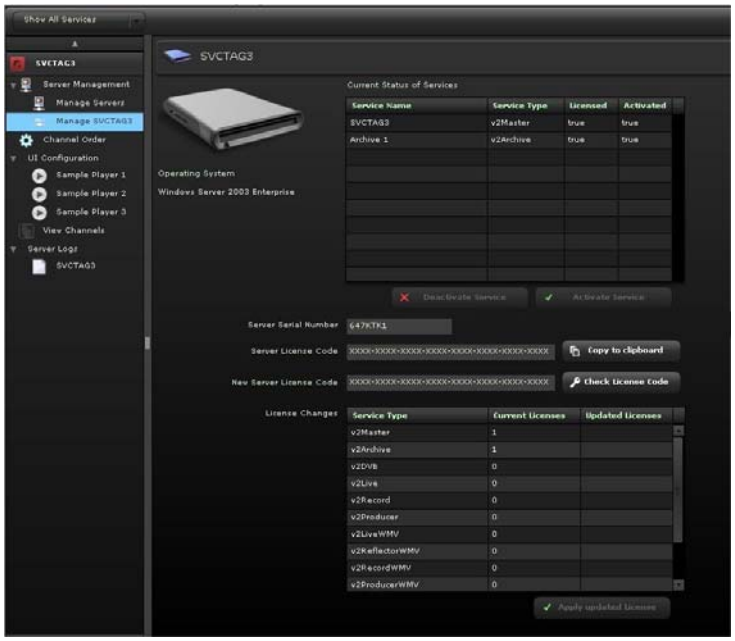


FIG. 46 Master Services page

Accessing the Server

There are two methods you can use to access the Vision^2 server: directly and remotely. Accessing directly requires connecting a monitor, keyboard, and mouse to the server and accessing it as you would with a typical PC. Accessing remotely requires using a remote desktop program to log in to the server.

Accessing the Server Directly

Perform these steps to access your server directly:

1. Connect a monitor to the VGA port on the front of the server.
2. Connect a USB keyboard and USB mouse to the 2 USB ports on the front of the server.

There is also a 15-pin VGA port and 2 USB ports on the rear of the server. It makes no difference which set of ports you use to connect your peripherals.

3. Power on the Vision^2 server. It may take a few minutes to boot.
4. Enter the username and password for the server. The default settings are:

   username: Administrator
   password: vision2
5. When the desktop appears, you can now access Vision^2 via the web browser. On the desktop, double-click the shortcut to the Vision^2 Master Services page. The Vision^2 ServicesManager appears.

Accessing the Server Remotely

Perform these steps to access your server remotely:

1. Test that you can access the server via the LAN. You can run this test by accessing a Command Prompt using the Ping command. For example:

   ```
   ping v2AMX-<SVCTAG>
   ```

   where `<SVCTAG>` is the service name, which you can find on the front of your server. If the server responds, write down the IP address of the server.
2. Open a remote desktop service on a remote system on the same LAN as the server.
3. Using a web browser on a PC with network access, navigate to *http://<servername>/admin.aspx*. The V2ServicesManager appears. You can also double-click the shortcut to the Vision^2 Master Services page to access the Vision^2 ServicesManager.

You can also access the server by using a remote desktop, however, you only need to use remote desktop to access the server for troubleshooting. You should also always use the Connect to Console when using a Remote desktop application, otherwise you will not see the v2server application running. You should configure to remote desktop to leave sound at the remote computer. If you keep the server running continuously, it should always be accessible via its web address.

Changing Your Server's Name

You can change your server's name from the default name assigned to it when you first receive it. After changing the name, use the new name to access the Vision^2 application. Perform these steps to change your server's name:

1. On your server's desktop, close the v2server application.
2. On your server's desktop, right-click **My Computer**, and select **Properties**. The System Properties window opens.
3. Click the **Computer Name** tab.
4. Click **Change**. The Computer Name Changes dialog box opens.
5. Enter the new name of the server in the **Computer Name** field.
6. Click **OK**, and restart the server as requested. Next, you must add the new server name to Windows Media Services.

7. Click **Start**, select **Administrative Tools**, and Open Windows Media Services. You will see an RPC error box, so click **OK** to bypass it.
8. In Windows Media Services, select **Action** from the top menu, open **Add Server**, and enter the new server name. Click **OK**.
9. Close the Windows Media Services window and restart the server**.** The server name change is now complete.

Adding a Server

To add new servers, ensure that the new server is powered and configured with Vision^2 Server running. Before you try to add the new server to the Vision^2 system, ensure that you can access the server via the LAN. Perform these steps to add a server to your configuration:

1. Test that you can access the server via the LAN. You can run this test by accessing a Command Prompt using the Ping command. For example:

   ```
   ping V2AMX-<SVCTAG>
   ```

   If the server responds, then continue.
2. Click **Server Management** from the Master R710 Vision^2 ServicesManager web interface.
3. Click **Manage Servers**. The Manage Servers page appears (FIG. 47).

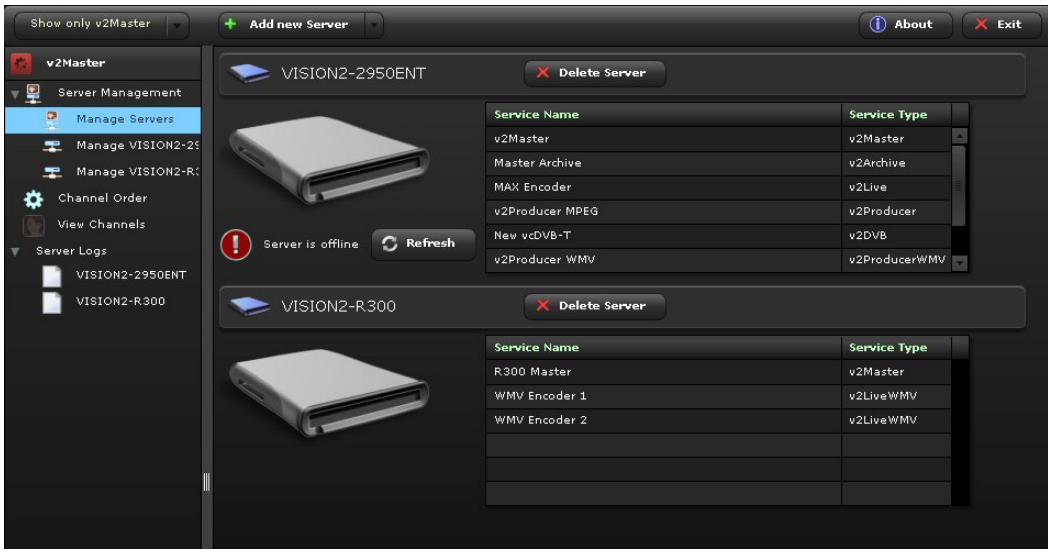


FIG. 47 Manage Servers page

4. Click **Add new Server** to open a text box (FIG. 48).

FIG. 48 Add new Server text box

5. Enter the name of the new server in the space provided.
6. Click **Apply**. The New server appears in the Manage Servers pane.
7. To confirm the new server into the Master server configuration so it can be managed, select **Import Server**. The services from the new server are now added to the Master server's main services menu.

8. Access the server's Vision^2 application. See the *Accessing the Server* section on page 48 for more information.
9. Change the **Master Server Name** to the Master R710 server's name (FIG. 49).

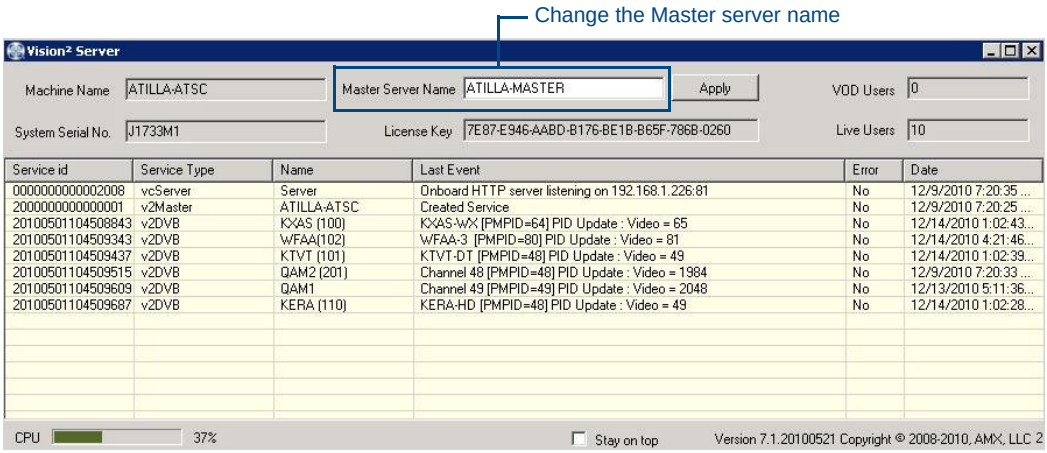

Change the Master server name
Vision² Server
Machine Name
ATILLA-ATSC
Master Server Name
ATILLA-MASTER
Apply
VOD Users
0
System Serial No.
J1733M1
License Key
7E87-E946-AABD-B176-BE1B-B65F-786B-0260
Live Users
10
Service id
Service Type
Name
Last Event
Error
Date
0000000000002008 vcServer Server Onboard HTTP server listening on 192.168.1.226:81 No 12/9/2010 7:20:35 ...
2000000000000001 v2Master ATILLA-ATSC Created Service No 12/9/2010 7:20:25 ...
20100501104508843 v2DVB KXAS (100) KXAS-WX [PMPID=64] PID Update : Video = 65 No 12/14/2010 1:02:43...
20100501104509343 v2DVB WFAA(102) WFAA-3 [PMPID=80] PID Update : Video = 81 No 12/14/2010 4:21:46...
20100501104509437 v2DVB KTVT (101) KTVT-DT [PMPID=48] PID Update : Video = 49 No 12/14/2010 1:02:39...
20100501104509515 v2DVB QAM2 (201) Channel 48 [PMPID=48] PID Update : Video = 1984 No 12/9/2010 7:20:33 ...
20100501104509609 v2DVB QAM1 Channel 49 [PMPID=49] PID Update : Video = 2048 No 12/13/2010 5:11:36...
20100501104509687 v2DVB KERA (110) KERA-HD [PMPID=48] PID Update : Video = 49 No 12/14/2010 1:02:28...
CPU
37%
Stay on top
Version 7.1.20100521 Copyright © 2008-2010, AMX, LLC 2

FIG. 49 Vision^2 Server application

10. Click **Apply**, and restart the application. You can now control this server via the Main Master server.

You have now successfully added a new server. On the remote server, you must change the Master Server Name in the Vision^2 application to the Master Server and restart the application.

NOTE

*If an incorrect server name is entered the system will attempt the connection for 30 seconds and then if unsuccessful the following error message will appear. Click **OK**, and click **Add New Server** again.*

Master Service

The Vision² Master Service is responsible for managing the licensing of all Vision² services on all of the servers in the system. It also creates the playlists for the live channels for the Windows Media Player and VLC Media Player, and creates a generic XML list for custom media players.

Server Management

When you select the Master Service, a representation of all of the available services appears (FIG. 50).

FIG. 50 Vision² Master Service

The Manage Servers menu option allows you to add and remove additional servers to and from the system. For details on adding a new server, see the *Adding a Server* section on page 49.

Managing a Specific Server

To view server information, select the server on the left pane. The Vision^2 Server Information screen appears (FIG. 51).

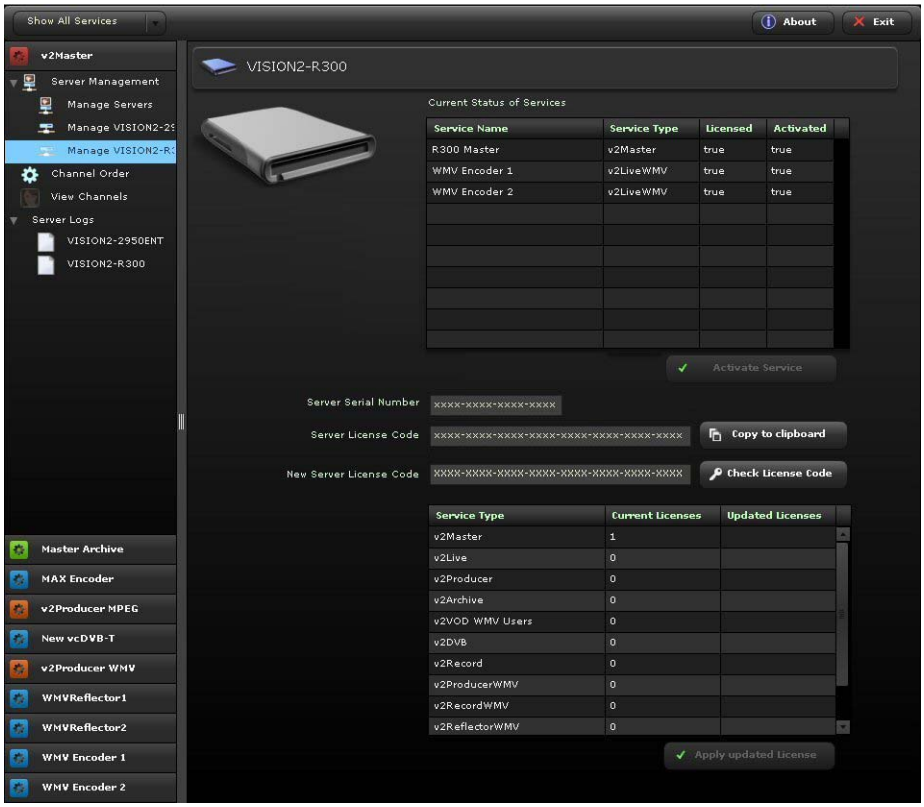


FIG. 51 Vision^2 Server Information

The following options appear for the server:

Server Options	
Current Status of Services	This table lists all of the services on the selected server and if they are Licensed and Activated. Inactive services are highlighted in green and do not appear the service selection menu on the left of the Services Manager.
Activate Service	This button enables you to change the active state of the selected service.
Server Serial Number	This is the unique serial number for the selected server.
Server License code	This is the license code which has been used to unlock the services on the server.
New Server License Code	This is where you would paste an updated license code supplied by AMX when you purchase additional services.
Check License Code	After you input a new license code, you can check that it will unlock the expected services by clicking this button. The license Changes section updates to show what would change.
Apply updated License	After checking the license code this button will actually update the license code on the server.

Adding and Activating Services

After successfully adding a server, you must activate the available services for it with an appropriate license key. Perform these steps to add and activate a service:

1. Click **Manage <name of server>** in the services list on the left side of the page to display the available services for the server.
2. Enter a valid license code in the New Service License Code field.
3. Click **Check License Code**. If the code is valid, the License Changes area displays the number of licenses available for each type of service.

NOTE

Each server or Live appliance has its own license code. If you have more than one server or appliance, you must apply a license code to each unit.

4. Click **Apply updated License** to apply the license code and create the requested services. The new services populate the Current Status of Services list at the top of the page.
5. Select an inactive service from the Current Status of Services list. Inactive services appear highlighted in green in the list and have a value of False in the Activated column.
6. Click **Activate Service** so you can manage the service. Repeat steps 5 and 6 to activate any remaining inactive services.

Changing the Channel Order

The Manage Channel Order page enables you to change the order in which live channels are listed in the user interfaces.

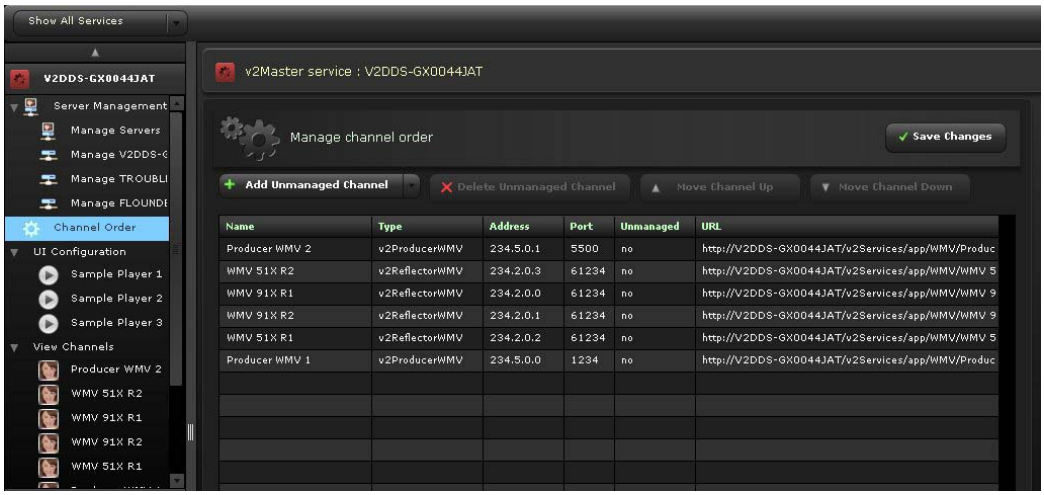


FIG. 52 Manage Channel Order

NOTE

Be sure to dismiss any pop-ups that appear before you save your changes and navigate to a different screen. Failure to do so can cause an interface error requiring you to refresh your browser.

The following options appear on the Manage Channel Order page.

Manage Channel Order Options	
Add Unmanaged Channel	Adds an unmanaged channel to the Channel Order list.
Channel Name	The name of the channel as it will appear in the Channel Order list.
Type	The type of stream for the channel.
Channel URL	The URL of the video source.
Delete Unmanaged Channel	Removes an unmanaged channel from the Channel Order list.
Move Channel Up	Moves the selected channel one position up in the list
Move Channel Down	Moves the selected channel position down in the list
Save Changes	Saves the changes to the server

Perform these steps to change the channel order:

1. Select a channel in the list.
2. Click **Move Channel Up** or **Move Channel Down** until the channel is in its appropriate location.
3. Click **Save Changes**.

Adding an Unmanaged Channel

If you have a non-Vision^2 video source, you can create an unmanaged channel for it. Perform these steps to add an unmanaged channel:

1. Click **Add Unmanaged Channel**. A dialog box appears (FIG. 53).

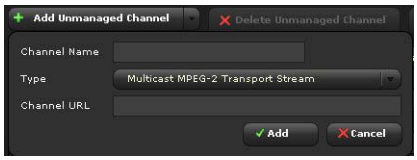


FIG. 53 Add Unmanaged Channel

2. Enter the name of the channel in the Channel Name field.
3. Select the type of channel from the Type options menu.
4. Enter the URL of the channel in the Channel URL field.
5. Click **Add**.

View Channels

All of the available live channels are listed under this menu entry. You can view live channels by clicking on the channel name. The Vision^2 interface, server, and player do not support h.264 content, therefore, you cannot view the stream from an AVN420 encoder.

Server Logs

The log files for each server can be viewed by selected the server name under this menu entry.

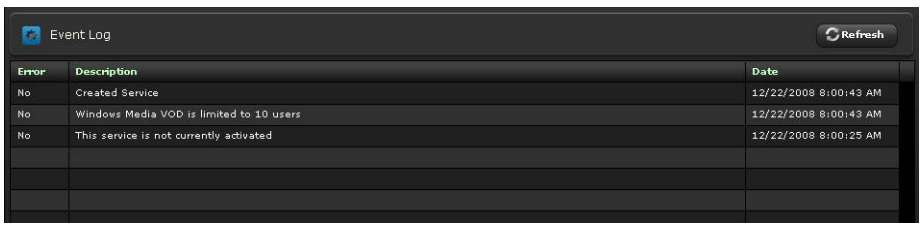


FIG. 54 Event Log

User Interface Configuration

The User Interface Configuration options enable the administrator to configure which video formats are available to the users in the sample player. The Zoom setting on the web browser should be set to 100% or the video may not appear in browser window. The following user interfaces are available:

Amino UI

Selecting the STB-04 user interface configuration enables you to select a custom user interface. FIG. 55 displays the Amino UI player. You can select a template on this screen. See the *Creating a New Template* section on page 40 for information on creating a template. You must click Apply prior to using the Amino clients to access the system.

FIG. 55 Amino UI Player

Tablet UI

Selecting the Tablet user interface configuration enables you to select a custom user interface. FIG. 56 displays the Tablet UI player. You can select a template on this screen. You must click Apply prior to using the Amino clients to access the system.

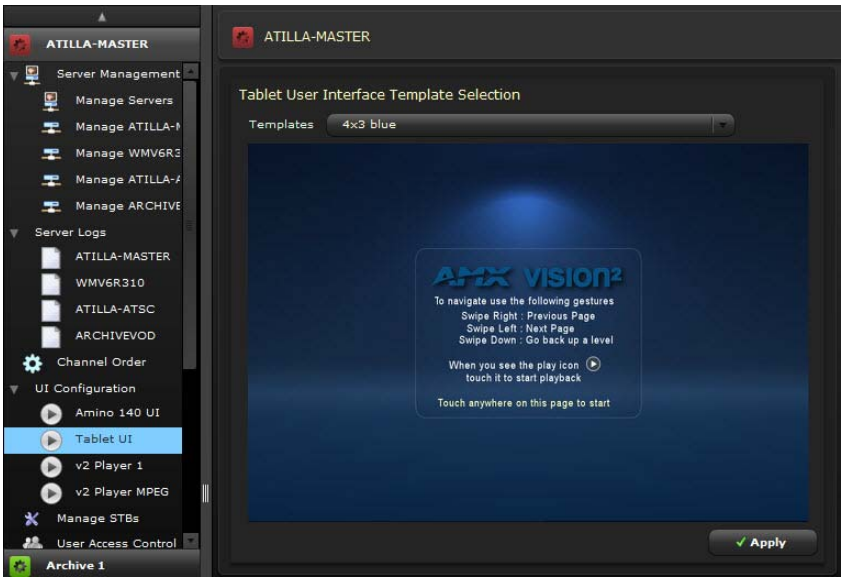


FIG. 56 Tablet UI Player

V2 Player

This is a fully featured player capable of displaying both live feeds and Video on Demand in multiple formats.

FIG. 57 Sample Player 1

Click the sample player under UI Configuration in the left panel to display the configuration options for the player (FIG. 58). The options for the V2 Player and the V2 MPEG Player are identical with the exception that the WMV options are not available with the MPEG player.

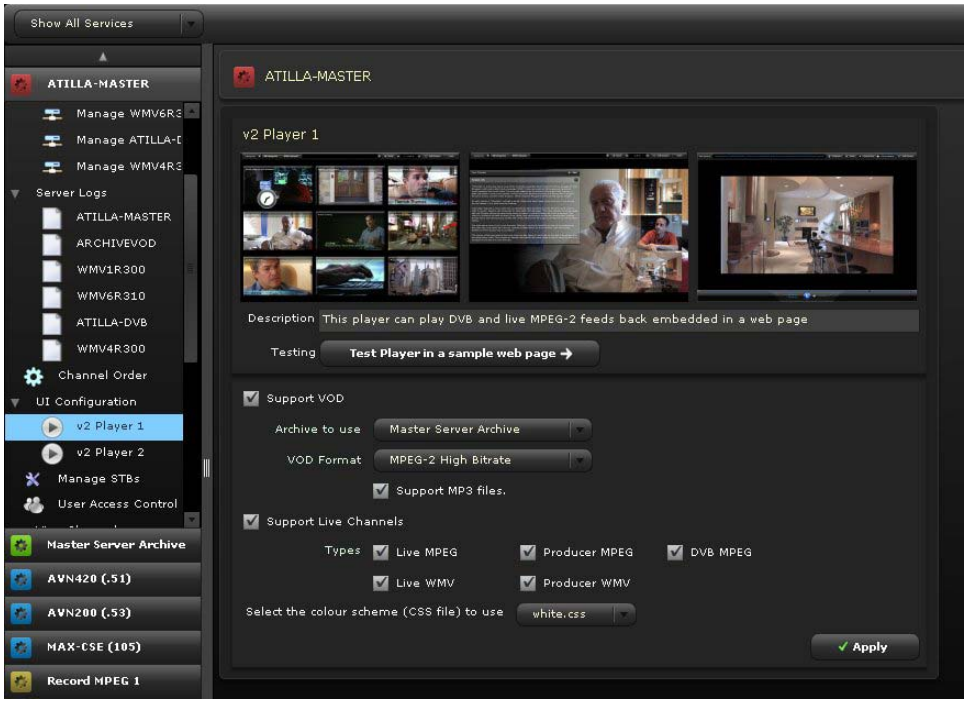


FIG. 58 Sample Player 1 Configuration

If a specific configuration option is not supported by a particular player, that option cannot be selected. The following options are available:

V2 Player Configuration Options	
Description	A single line description shown in the management interface to help with identification.
Test Player in a sample web page	Clicking this button launches the player in a new web browser with the selected options. See the *Testing the Player in a Web Page* section on page 60 for more information.
Support VOD	Toggles whether you want to support on demand content.
Archive to use	Selects the Archive for the player to use for Video on Demand content.
VOD Format	Selects the video format and bitrate that the player should use.
Support MP3 files	Toggles whether you want to enable the use of MP3 files. The Support VoD option must be enabled to use MP3 files.
Support Live Channels	Toggles whether the player supports live channels from the Vision^2 system.
Types	Indicates the types of live channels should be supported by the player. You can choose from Live MPEG, Producer MPEG, DVB MPEG, Live WMV, and Producer WMV. Live WMV and Producer WMV are not available on the V2 MPEG player.
Select the colour scheme (.css file) to use	Select a color scheme from the available menu. The color scheme defines the colors used in the interface.

Perform these steps to configure the sample player:

1. Click the arrow button beside **UI Configuration** under the Master menu to display the available players.
2. Click the sample player you want to configure. The sample player's Configuration page opens (FIG. 58).
3. Enter a description of the video in the Description text box. This step is only for ease of identification and is optional.
4. Click the **Support VOD** check box if you want the player to support video on demand content. If you click this check box, also perform the following steps:
   - Use the **Archive to use** options menu to select an archive to use for video on demand content. For more information about configuring an archive, see the *Archive Service* section on page 85**.**
   - Use the **VOD Format** options menu to select a video format and bitrate for the player to use.
5. Click the **Support Live Channels** check box if you want the player to support live channels. If you click this check box, click the respective check boxes for the types of live channels you want the player to support.
6. Click **Apply** when finished making changes to the configuration.

Vision^2 version 7.2 does not support scaling and resizing of WMV files within a browser window.

Format Compatibility

The following tables list the formats that are compatible with Live channels and Video on Demand.

Live Channel Compatibility				
	Amino	*VLC*	*PC Client*	*WMP*
WMV	No	No	Yes	Yes
MPEG-2/ MPEG-2 TS	Yes	Yes	Yes	Yes
H.264 (AVC)/ MPEG-2 TS	Yes	Yes	No	No
H.264 (AVC)/ MP4	Yes	Yes	No	No
PC Client	Yes	Yes	Yes	Yes

Video on Demand Compatibility				
	Amino	*VLC*	*PC Client*	*WMP*
WMV	No	Yes	Yes	Yes
MPEG-2/MPEG-2 TS	Yes	Yes	Yes	Yes
H.264 (AVC)/MPEG-2 TS	Yes	Yes	Yes	Yes
H.264 (AVC)/MP4	No	Yes	Yes	No*
FLV (On2 VP6/FLV)	No	Yes	Yes	Yes

* - Some Windows 7 Media Players support MP4.

Testing the Player in a Web Page

To view how the Vision^2 player will appear, click the **Test Player in a sample web page** button on the V2 Player Configuration page. The player appears in a new tab in your current browser. The additional tabs in the player screen provide more options (FIG. 59).

Home
Player
Downloads
Widgets
About
Vision² Media Player Plug-in
The Vision² Media Player Plug-in is required to view Live MPEG-2 TV channels in Windows Media Player
Right click on the following link and download the file and then run it download plug-in now
Notes
Important - if you try to run it directly from the vision² server it will not install correctly
Important - Before installing this plug-in you download the required CODECs (see CODECs below)
Media Player CODECs
Please visit this website and install the CODEC package before installing the Vision² Media Player Plug-in.
http://ffdshow-tryout.sourceforge.net

FIG. 59 Downloads tab

The Downloads tab provides links to plug-ins and codecs you may need to use certain features of Vision^2. The Widgets tab (FIG. 60) provides several different video tools. Each tool comes listed with its own HTML code which you can use to embed the video tool into a webpage. Simply copy the provided code into the HTML code of your webpage and the video tool appears on the page.

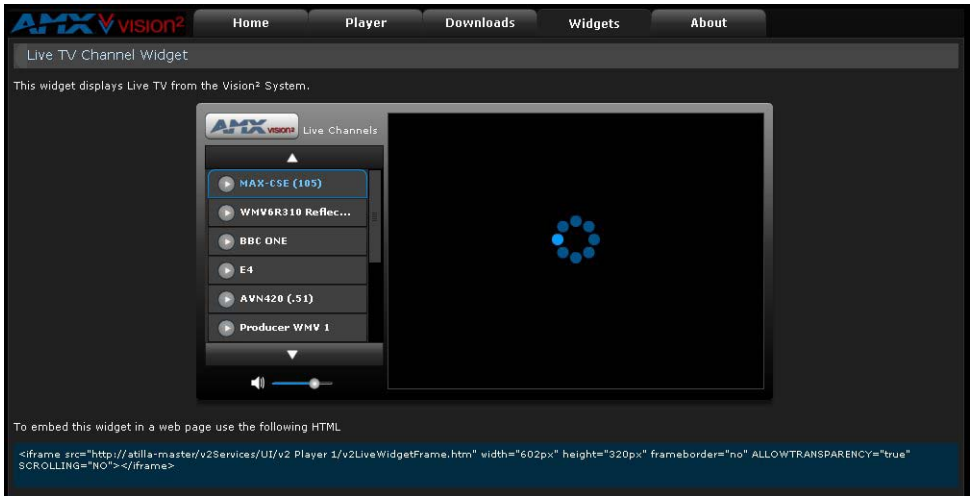


FIG. 60 Widgets tab

Set-Top Box Management

Set-Top Boxes support viewing live programming via a producer channel or an MPEG encoder. The set-top boxes access your Vision^2 server and display available programming on a connected video source. The set-top boxes are used only for MPEG content. They support viewing MPEG Video on Demand, and supports Stop, Play, Pause, Fast-Forward, and Rewind features. See the *Set-Top Boxes* section on page 30 for information on setting up a set top box. FIG. 61 displays the Set Top Box Management screen.

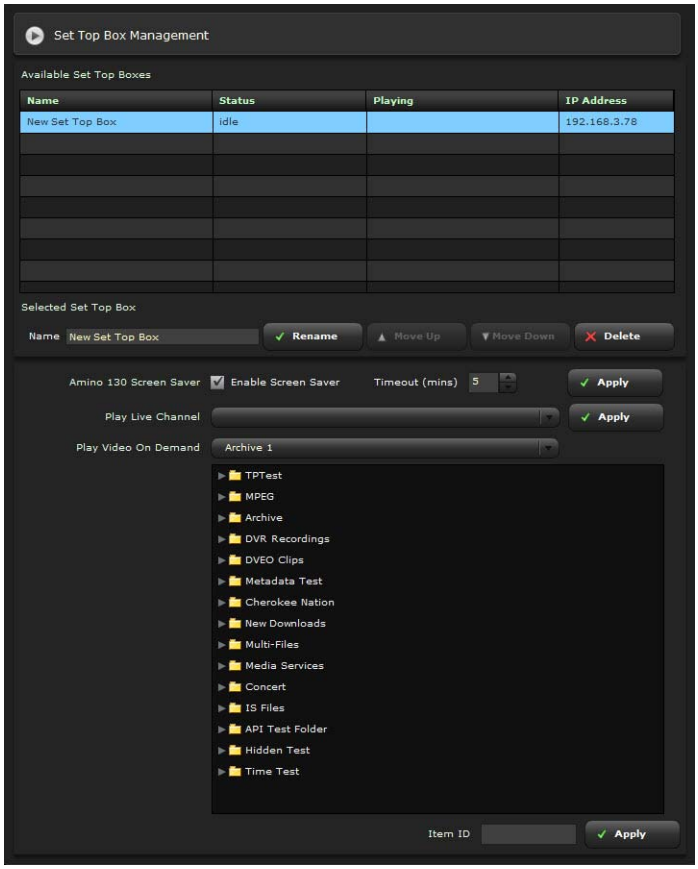


FIG. 61 Set Top Box Management screen

The Available Set Top Boxes area lists the set-top boxes currently detected. This list includes the name, status, channel type, and IP address of each set-top box. This list is view-only. You can select any set-top box from the list and use the options below to change its output. You can use Ctrl-Click to select multiple set-top boxes and Shift-Click to select a range of set-top boxes.

The set-top box management options are as follows:

Set-Top Box Management Options	
Name	Enter a name for the set-top box.
Rename	Click to apply the edited name to the set-top box.
Move Up/Move Down	Moves the selected set-top box up or down in the list.
Delete	Removes the set-top box from the list.
Enable Screen Saver	Click to activate screen saver mode.
Timeout	Use the up-and-down arrows to select the amount of idle time, in minutes, before the screen saver activates. After enabling screen saver mode and indicating the timeout, click Apply to enable the settings.
Play Live Channel	Select a live channel to play through the set-top box. Click Apply when finished and the set-top box begins playing the live channel.
Play Video On Demand	Select a video on demand to play through the set-top box. Click Apply when finished and the selected video on demand becomes available. ***Note:*** *Users are only able to pull Video on Demand content from the Master Archive, and not the subtending server archives. This option displays all files including hidden ones. It is up to the Administrator to make any hidden files available to users. Filenames should only contain the characters A-Z, 0-9, spaces and underscores. If a filename is imported that contains the special character, it could cause error.*
Item ID	This field displays a unique ID number for the selected video. This field is view-only.

If communication is lost between the set-top box and the Master server, the server is unable to poll the set-top box. The set-top box state remains at the last "known" state until the communication is re-established. The status does not show connectivity has been lost.

Configuring Vision^2 for use with LDAP

If you intend to use Lightweight Directory Access Protocol (LDAP), then before you begin there is an XML file on the Vision^2 server which must be edited manually. You must edit the *ldsl.xml* file located in the *C:\Inetpub\wwwroot\v2Services\App_Code* directory. The contents of this file are used to impersonate the specified user when communicating with the LDAP server. For this reason, the user defined by these settings must have read rights on the LDAP server. The file contains the following entries:

- username - This is the user to impersonate
- domain - The domain in which the LDAP server resides
- password - The password of the user to impersonate

It also contains and entry for *userattributecontainingloginname*. This entry, as the name suggests, contains the name of the attribute within the user Distinguished Name (DN) which holds the value that the user supplies when they log in. For a normal Active Directory implementation, this value is *sAMAccountName* and for ADAM it is usually *name*.

User Access Control

This section of the v2ServicesManager controls whether the system supports User Access Control (UAC), and if so, the type of UAC employed. (Where possible, example values are provided for both Active Directory and ADAM).

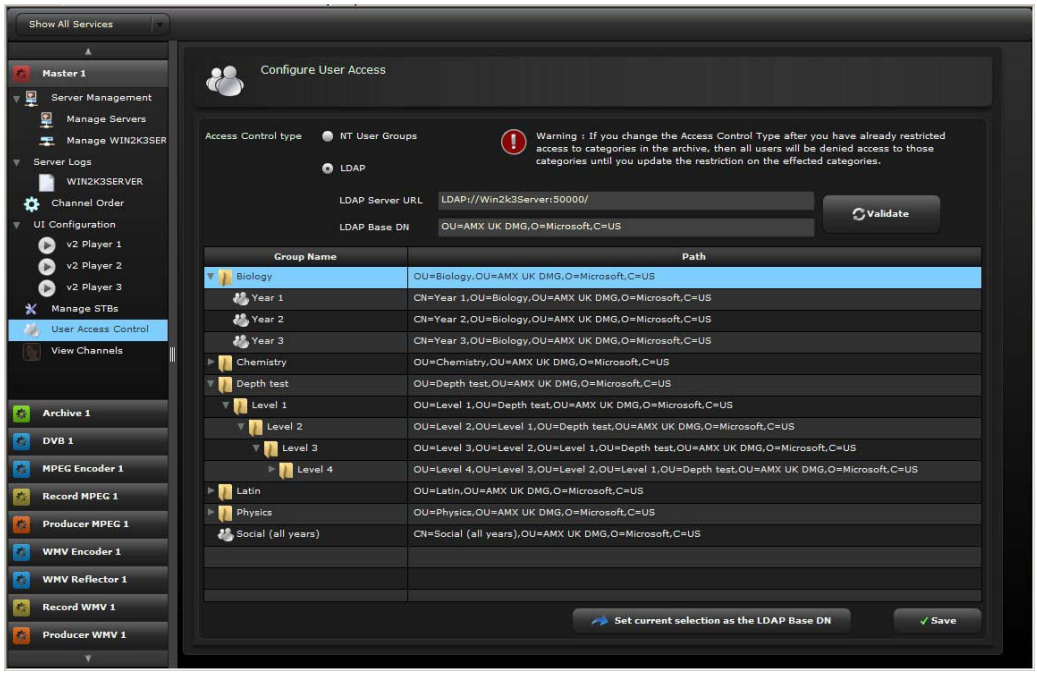


FIG. 62 User Access Control screen

The user access control options are as follows:

User Access Control Options	
User Access Control Enable	Enables user access control on the system
Access Control Type	Select the appropriate option to indicate whether user access control is controlled by Windows NT User Groups or LDAP.
LDAP Server URL	This is the LDAP URL to the Server. This option is only available if you select LDAP as the Access Control Type. Example values: Active Directory: *LDAP//AMXVision2Dev.Local/* ADAM: *LDAP//AMXVision2Dev:50000/*
LDAP Server Root	This is the LDAP URL to the Server Root. This option is only available if you select LDAP as the Access Control Type. Example values: Active Directory: *LDAP//AMXVision2Dev.Local/* ADAM: *LDAP//AMXVision2Dev:50000/O=AMX, C=UK*
LDAP Base DN	This is the Base DN which is used as the starting point in the LDAP tree when browsing LDAP from a Content Folder in the Archive. This setting prevents you from having to traverse the entire LDAP tree when restricting user access to content in the Archive, thereby simplifying the procedure. This option is only available if you select LDAP as the Access Control Type. Example values: Active Directory: *OU=AMX UK DMG* ADAM: *OU=AMX UK DMG, O=AMX, C=UK*
Validate	Click this button to apply the LDAP settings after entering them. The tree control at the bottom of the page displays the results.
Set current selection as the LDAP base DN	Click this button to make the LDAP base DN the currently selected item in the tree control.
Save	Click this button to save all selected values.

Restricting User Access to Content

In the Archive Service, when you navigate to a folder which contains videos the Restrict the users who gave access to the content in this category check box appears. When enabled, it displays the current DN selected for the restriction. The Change button displays a tree control which contains the LDAP tree from the LDAP Base DN (defined in the Master Service) downwards. You can then Apply a new DN.

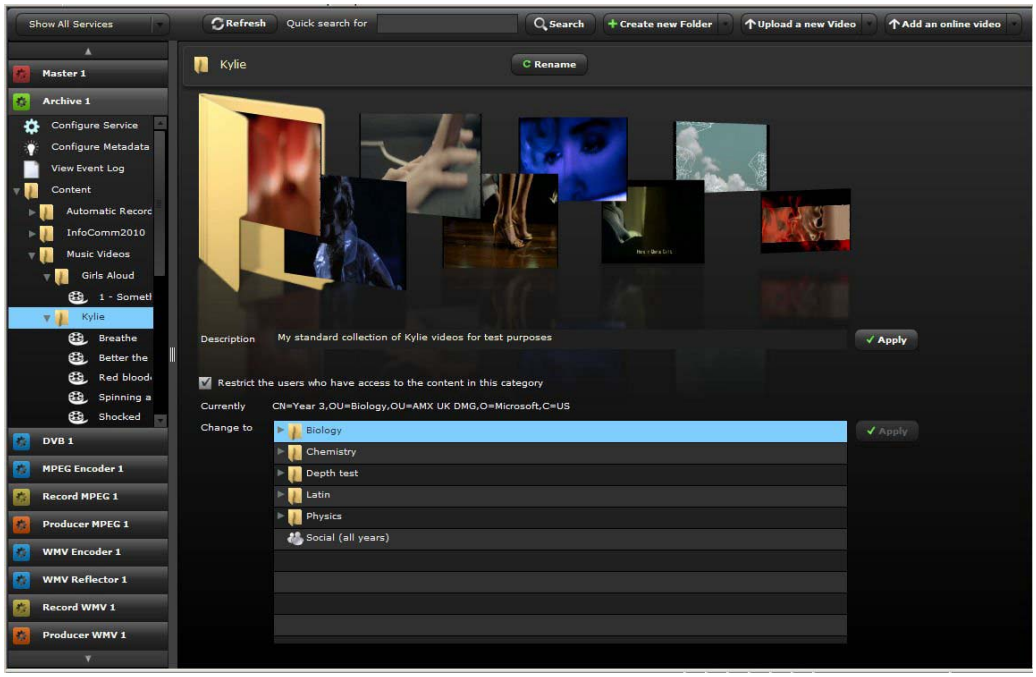


FIG. 63 LDAP Restriction settings

Live (MPEG) Service

The Vision^2 Live (MPEG) Service provides a single live TV channel to the system. The Live MPEG service uses an AMX MAX-CSE encoder (**FG2178-70**) or other supported third-party encoder to provide the hardware encoding of video and audio signals into an MPEG-2 multicast stream. Live Services, as with all other Vision^2 services, are managed by the Vision^2 Services Manager web interface.

Configuring the MAX-CSE Encoder

When you select the Configure MAX-CSE Encoder option from the Live Service Menu the following page appears (FIG. 64):

FIG. 64 Configure MAX-CSE Encoder

Service Settings

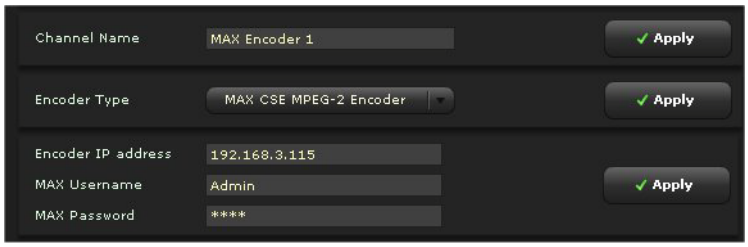


FIG. 65 MAX Encoder Service Settings

The top section of the page deals with the settings for the service itself and consists of the following options:

Service Settings Options	
Channel Name	The name of the service as it appears in the playlists.
Encoder Type	Use the options menu to select the type of MPEG encoder you want to configure.
Encoder IP Address	The network IP Address of the encoder. You can find the IP address of the MAX-CSE encoder on the LED on the front of the unit.
MAX Username	The user name required to manage the device. The default user name is *Admin*.
MAX Password	The password required to manage the device. The password is *1988*.

Perform these steps to configure the MAX-CSE Encoder:

1. Select **Configure Encoder** from the MAX Encoder Menu. The Live Service page opens (FIG. 64).
2. In the **Service Name** text box, enter the name of the service as you want it to appear in playlists.
3. Select the type of encoder you want to configure from the **Encoder Type** options menu.
4. Enter the network IP Address of the encoder in the Encoder IP Address field. You can find the IP address of the MAX-CSE encoder on the LED on the front of the unit.
5. In the **MAX Username** text box, enter the username used to gain access to the encoder. The default username is **Admin**.
6. In the **MAX Password** text box, enter the password used to gain access to the encoder. The default password is **1988**.
7. Click **Apply**.

NOTE

If you enter an incorrect IP address the system will attempt the connection for 30 seconds and then, if unsuccessful, the following message will appear at the bottom of the page: "The encoder is not responding and is probably offline."

Stream Settings

The bottom section of the page deals with the specific parameters defined for multicasting the video and the actual parameters which define the encoding process. When you check the Stream Enable check box, the system starts the encoding process and multicasts the stream.

WARNING

You will receive an error if you disable a Live channel while it is being accessed by another service.

Multicast Settings

FIG. 66 MAX Encoder Multicast Settings

The following options are available in the multicast section:

Multicast Settings Options	
Protocol	The protocol setting is fixed at UDP multicast. UDP multicast is the only supported protocol at this time.
Address	This is the multicast address that will be used. This option is pre-configured and cannot be changed.
Port	This is the multicast port number that will be used. This option is pre-configured and cannot be changed.
TTL	This is the multicast TTL that will be used. You can enter a value in the space provided. This option is pre-configured and cannot be changed.

Encoding Settings

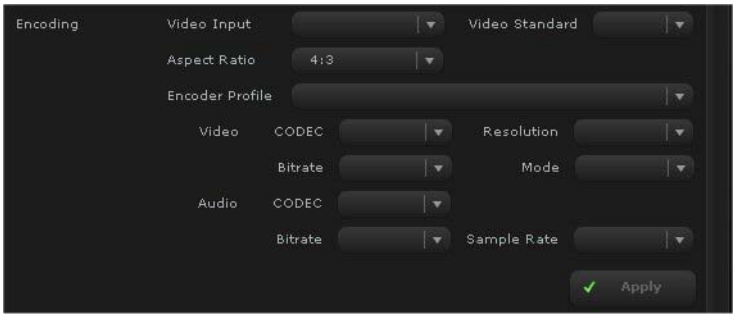


FIG. 67 MAX Encoder Encoding Settings

The following options are available in the encoding section:

Encoding Settings Options	
Video Input	The MAX encoder supports either S-Video or Composite video inputs.
Video Standard	The MAX encoder supports NTSC (USA and Japan) and PAL (rest of the world, excluding France) video standards.
Aspect Ratio	The MAX encoder is supports a 4:3 and 16:9 aspect ratio.
Encoder Profile	Vision^2 supports only the MAX Custom encoder profile.
Video CODEC	Vision^2 supports only MPEG-2 video compression on the MAX encoder.
Video Resolution	The MAX encoder supports D1 (720 x 576 PAL / 640 x 480 NTSC) and SIF (360 x 288 PAL / 320 x 240 NTSC) resolutions.
Video Bitrate	The MAX encoder supports a range of selected video bitrates from 500 Kbits to 6 Mbits. The recommended encoding bitrate is 6 Mbits.
Video Mode	The MAX encoder supports Constant Bit Rate (CBR) and Variable Bit Rate (VBR) modes. For multicasting, CBR is recommended as it produces a constant rate over the network.
Audio CODEC	Vision^2 supports only MP3 audio compression on the MAX encoder.
Audio Bitrate	The MAX encoder supports audio bitrates of 96K and 192K.
Audio Sample Rate	The MAX encoder supports audio sample rates of 32, 44.1, and 48K.

Perform these steps to configure the MPEG multicast stream:

1. Select **Configure Encoder** from the MAX Encoder menu. The Live Service page opens (FIG. 64).
2. Use the **Video Input** options menu to indicate whether you are connecting to the S-video or composite port on the MAX encoder.
3. Use the **Video Standard** options menu to indicate which video standard the MAX encoder is using.
4. Use the **Aspect Ratio** options menu to indicate the aspect ratio you want to use for the multicast stream.
5. Use the **Video Resolution** options menu to indicate the video resolution of the multicast stream.
6. Use the **Video Bitrate** options menu to indicate the video bitrate of the multicast stream.
7. Use the **Video Mode** options menu to indicate the video mode of the multicast stream. It is recommended that you select CBR.
8. Use the **Audio Bitrate** options menu to indicate the audio bitrate of the multicast stream.
9. Use the **Audio Sample Rate** options menu to indicate the audio sample rate of the multicast stream.
10. Click **Apply**. Clicking Apply saves your configuration.
11. Click the **Enable** check box to begin the multicast stream.

With the stream enabled, you cannot change any of the multicast or encoding parameters.

Live (WMV) Service

The Vision^2 Live (WMV) Service provides a single live TV channel to the system. It uses an A/V capture card and Windows Media 9 (WM9) to provide the software encoding of composite, S-video, and component video and audio signals into a WM9 unicast stream. Live Services as with all other Vision^2 services are managed by the Vision^2 Services Manager web interface to provide a unicast stream over HTTP.

Configuring the AMX Vision^2 Dual Encoder

When you select Configure Encoder from the WMV Encoder menu and select AMX Vision^2 Dual Encoder from the Encoder Type menu, the following page appears (FIG. 68):

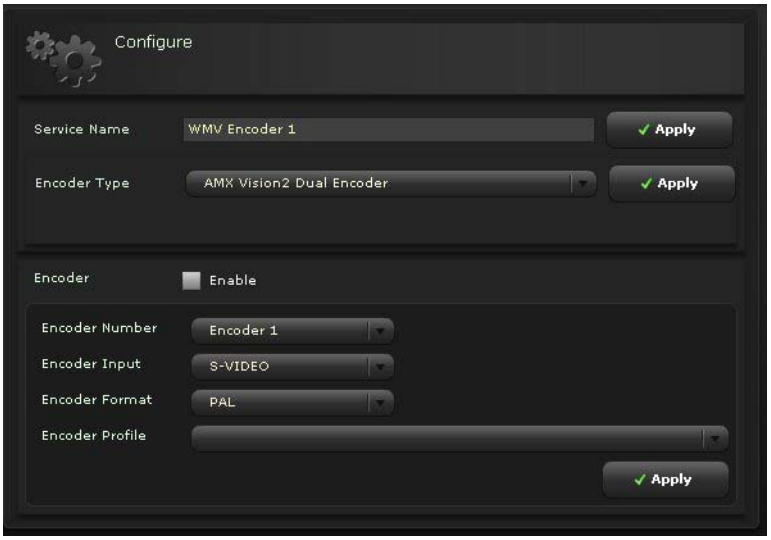


FIG. 68 Configure Live WMV Service

This page contains the following options:

Service Settings Options	
Service Name	The name of the service as it appears in the left pane of the main window.
Encoder Type	Use the options menu to select the type of WMV encoder you want to configure. Click Apply if selecting a new encoder type.
Encoder	Select the Enable check box to Start or uncheck to Stop the encoder.
Encoder Number	Selects the Capture card and Encoder (Encoder 1 or Encoder 2).
Encoder Input	Selects the input port on the capture card (Component, Composite, or S-Video). **S-Video**: The video signal is divided into luminance and chrominance. Results in good-quality video. **Composite video**: Composite video should only be used as a source as a last resort. With composite video, luminance and chrominance components are mixed, which makes it difficult to get good-quality video.
Encoder Format	Selects the required Video Standard (PAL or NTSC).
Encoder Profile	This enables the selection of pre-configured encoder profiles at Preset Bit rates. A profile is a collection of properties tailored to the type of content being encoded, the audience, and the intended distribution (file or broadcast). The properties stored in a profile include: the audio and video quality, connection speed for the intended audience, available bandwidth, and appropriate codecs. The use of profiles simplifies the process of setting up an encoding session.

Perform these steps to configure the AMX Vision^2 Dual Encoder:

1. Select **Configure Encoder** from the WMV Encoder menu. The Configure Live WMV Service page opens (FIG. 68).
2. In the **Service Name** text box, enter the name of the service as you want it to appear in the left pane of the main window.
3. Click **Apply**.
4. Select the type of encoder you want to configure from the **Encoder Type** options menu.
5. Click **Apply**.
6. Use the **Encoder Input** options menu to indicate whether you are connecting to the S-video, component, or composite port on the encoder.
7. Use the **Encoder Format** options menu to indicate which video standard the encoder is using.
8. Use the **Encoder Profile** options menu to select a profile containing the appropriate pre-configured encoder settings.
9. Click **Apply**. Clicking Apply saves your configuration.
10. Check the **Encoder Enable** check box to start the encoder and unicast the video stream at the selected settings. You can view the encoded stream by clicking **View Unicast Stream** in the main menu (FIG. 72).

Configuring the VBrick WMV Appliance Encoder

When you select Configure Encoder from the WMV Encoder menu and select VBRICK WMV Appliance from the Encoder Type menu, the following page appears (FIG. 69):

FIG. 69 Configure VBrick WMV Appliance Encoder

Service Settings

FIG. 70 WMV Encoder Service Settings

The top section of the page deals with the settings for the service itself and consists of the following options:

Service Settings Options	
Service Name	The name of the service as it appears in the playlists.
Encoder Type	Use the options menu to select the type of WMV encoder you want to configure.
Encoder IP Address	The network IP Address of the encoder.
Username	The user name required to manage the device. The default user name is *admin*.
Password	The password required to manage the device. The password is *admin*.

Perform these steps to configure the VBrick WMV Appliance Encoder:

1. Select **Configure Encoder** from the MAX Encoder Menu. The Live Service page opens (FIG. 68).
2. In the **Service Name** text box, enter the name of the service as you want it to appear in playlists.
3. Click **Apply**.
4. Select the type of encoder you want to configure from the **Encoder Type** options menu.
5. Click **Apply**.
6. Enter the network IP Address of the encoder in the Encoder IP Address field.
7. In the **Username** text box, enter the username used to gain access to the encoder. The default username is **admin**.
8. In the **Password** text box, enter the password used to gain access to the encoder. The default password is **admin**.
9. Click **Apply**.

If you enter an incorrect IP address the system will attempt the connection for 30 seconds and then, if unsuccessful, the following message will appear at the bottom of the page: "The encoder is not responding and is probably offline."

Encoding Settings

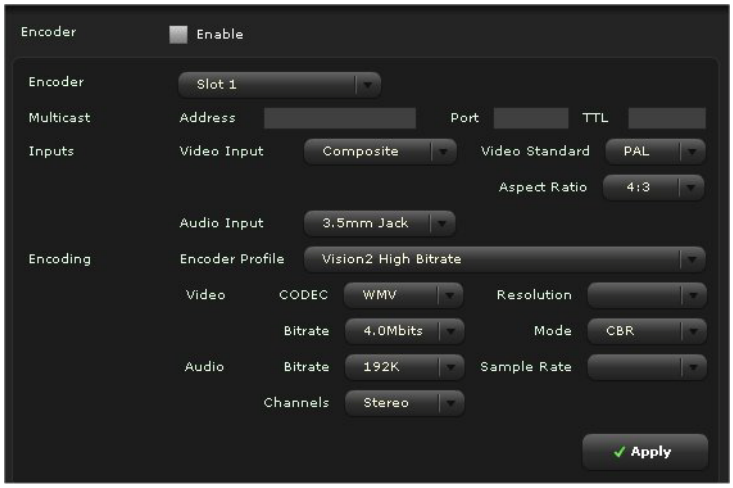


FIG. 71 WMV Encoder Encoding Settings

The following options are available in the encoding section:

Encoding Settings Options	
Enable	Click to enable WMV streaming through the encoder. ***Note:*** *You will receive an error if you disable a Live channel while it is being accessed by another service.*
Multicast	
Address	This is the multicast address that will be used. This option is pre-configured and cannot be changed.
Port	This is the multicast port number that will be used. This option is pre-configured and cannot be changed.
TTL	This is the multicast TTL that will be used. You can enter a value in the space provided. This option is pre-configured and cannot be changed.
Inputs	
Video Input	The encoder supports either S-Video, Component, or Composite video inputs.
Video Standard	The encoder supports NTSC (USA and Japan) and PAL (rest of the world, excluding France) video standards.
Aspect Ratio	The encoder is supports a 4:3 and 16:9 aspect ratio.
Audio Input	Select the audio input you want to use from the options menu.
Encoding	
Encoder Profile	Select the encoder profile you want to use.
Video CODEC	Vision^2 supports only WMV video compression on the WMV encoder.
Video Resolution	The encoder supports D1 (720 x 576 PAL / 640 x 480 NTSC) and SIF (360 x 288 PAL / 320 x 240 NTSC) resolutions.
Video Bitrate	The encoder supports a range of selected video bitrates from 500 Kbits to 4 Mbits. The recommended encoding bitrate is 4 Mbits.
Video Mode	The encoder supports Constant Bit Rate (CBR) and Variable Bit Rate (VBR) modes. For multicasting, CBR is recommended as it produces a constant rate over the network.
Audio Bitrate	The encoder supports audio bitrates of 12K through 192K.
Audio Sample Rate	The encoder supports audio sample rates of 32, 44.1, and 48K.
Channels	The type of audio channel used by the encoder.

Perform these steps to configure the VBrick WMV multicast stream:

1. Select **Configure Encoder** from the Encoder menu. The Live Service page opens (FIG. 68).
2. Use the **Video Input** options menu to indicate whether you are connecting to the S-video, component, or composite port on the encoder.
3. Use the **Video Standard** options menu to indicate which video standard the encoder is using.
4. Use the **Aspect Ratio** options menu to indicate the aspect ratio you want to use for the multicast stream.
5. Use the **Audio Input** options menu to indicate whether you are connecting to the 3.5 mm jack or the Mic DIN.
6. Use the **Encoder Profile** options menu to indicate which profile the encoder is using.
7. Use the **Video Resolution** options menu to indicate the video resolution of the multicast stream.
8. Use the **Video Bitrate** options menu to indicate the video bitrate of the multicast stream.
9. Use the **Video Mode** options menu to indicate the video mode of the multicast stream. It is recommended that you select CBR.
10. Use the **Audio Bitrate** options menu to indicate the audio bitrate of the multicast stream.
11. Use the **Audio Sample Rate** options menu to indicate the audio sample rate of the multicast stream.
12. Click **Apply**. Clicking Apply saves your configuration.
13. Click the **Enable** check box to begin the multicast stream.

Viewing the Stream

The Vision^2 Services manager provides a menu option to allow you to view the stream without having to start a user player. Click the **View Stream** option in the Services menu to view the stream. You must select **Encoder Enable** on the configuration page to view the stream.

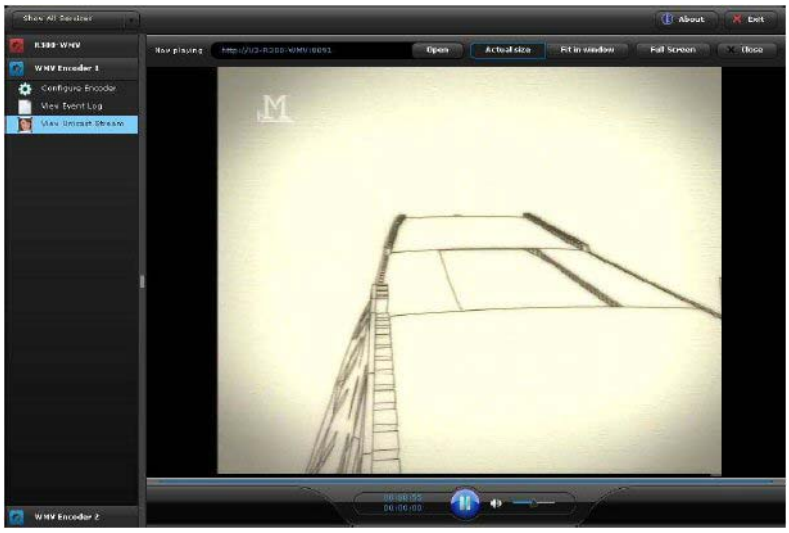


FIG. 72 View Unicast Stream

Reflector Service

The Vision^2 Reflector Service provides a single live TV channel to the system. Reflector can multicast a Live WMV service, MPEG channel, or a stream from the Web. The MPEG Reflector accepts both unicast and multicast Windows Media streams as its input and can provide both unicast and multicast Windows Media streams as its output. Reflector services, as with all other services, are managed by the Vision^2 ServicesManager web interface.

WMV Configuration

The WMV reflector accepts a unicast stream from a source and multicasts out as a channel. When you select the Configure Reflector from the Reflector Service Menu the following page appears (FIG. 73).

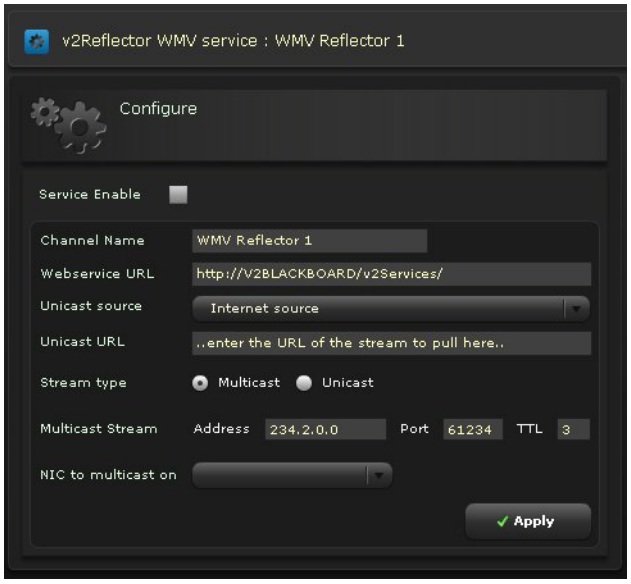


FIG. 73 Configure Vision^2 WMV Reflector Service

The following options appear on the Reflector service configuration page:

Reflector WMV Service Options	
Service Enable	This enables the service and will begin multicasting if appropriate. ***Note:*** You cannot edit any of the other settings while the service is enabled.
Service Name	The name of the service as it appears in the playlists
Web Service URL	The URL to the Web Services interface for this service. This value is automatically generated and should not be edited unless instructed by AMX.
Unicast source	The options menu provides a list of all the Live (WMV) encoders in the system and also an option to specify a WMV stream from the internet. See the *Adding a Server* section on page 49 and the *Adding and Activating Services* section on page 53 for more information on adding additional unicast sources.
Unicast URL	If a Live (WMV) encoder is selected as the Unicast source then the Unicast URL is automatically configured. If, however, you are using a remote encoder that is not located on the local network, and you selected Internet source as the Unicast source then you need to enter the URL to the encoder here.
Stream Type	Click the appropriate option button to indicate the stream type. You should select Multicast if you are streaming over an Intranet. Select Unicast for an Internet stream.
Multicast Stream	
Address	The multicast address for this channel. This option is pre-configured and cannot be changed.
Port	The multicast port for this channel. This option is pre-configured and cannot be changed.
TTL	The Multicast TTL for this channel. This option is pre-configured and cannot be changed.
NIC to multicast on	The IP address of the network to use for multicasting.
Apply	You must click Apply to save the changes before your changes take effect.

Activating a Unicast Stream

Perform these steps to activate a unicast stream:

1. Select **Configure Reflector** from the WMVReflector Menu on the left pane of the window. The Reflector WMV Service page appears (FIG. 73).
2. In the **Service Name** box, enter the name of the service as you want it to appear in playlists.
3. Select a unicast source from the **Unicast source** options menu. If you select **Internet Source**, enter the URL of the encoder you want to use for the unicast source in the **Unicast URL** box.
4. Select the IP address of the network you want to use for the multicast from the **NIC to multicast on** options menu.
5. Click **Apply** if you made any changes to the Reflector configuration.
6. Click the **Service Enable** check box at the top of the screen. Reflector begins multicasting the video stream as configured.

Viewing the Stream

The Vision^2 Services manager provides a menu option to allow you to view the stream without having to start a user player. Click the **View Stream** option in the menu for the service. You must select **Service Enable** on the configuration page to start the service before you can view the stream.

MPEG Configuration

The MPEG reflector can receive both unicast or multicast streams and output both unicast or multicast streams. When you select the Configure Reflector from the MPEG Reflector Service Menu the following page appears (FIG. 74).

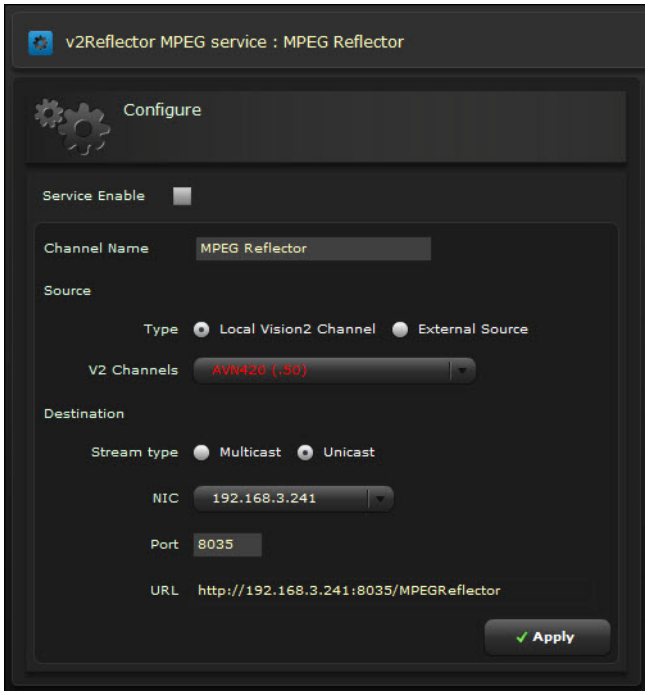


FIG. 74 Configure Vision^2 MPEG Reflector Service

The following options appear on the Reflector service configuration page:

Reflector MPEG Service Options	
Service Enable	This enables the service and will begin multicasting if appropriate. ***Note:*** You cannot edit any of the other settings while the service is enabled.
Channel Name	The name of the service as it appears in the playlists.
Source	
Type	Click the appropriate option button to indicate the source type. You can choose from Local Vision2 Channel or External Source.
V2 Channels	The options menu provides a list of all the Producer channels in the system. This option is only available if you select Local Vision2 Channel as the source type.
URL	Use the provided field to enter the URL containing an MPEG-2 or H.264 video. This option is only available if you select External Source as the source type.
Destination	
Stream type	Click the appropriate option button to indicate the stream type. You should select Multicast if you are streaming over an Intranet. Select Unicast for an Internet stream.
Multicast options	These options are only available if you select Multicast as the Stream type.
Address	The multicast address for this channel. This option is pre-configured and cannot be changed.
Port	The multicast port for this channel. This option is pre-configured and cannot be changed.
TTL	The multicast TTL for this channel. This option is pre-configured and cannot be changed.

Reflector MPEG Service Options (Cont.)	
NIC to multicast on	The IP address of the network to use for multicasting.
Unicast options	The following options are only available if you select Unicast as the Stream type.
NIC	Select the unicast address for this channel.
Port	The unicast port for this channel. This option is pre-configured and cannot be changed.
URL	The unicast TTL for this channel. This option is pre-configured and cannot be changed.
Apply	You must click Apply to save the changes before your changes take effect.

Activating a Unicast Stream

Perform these steps to activate a unicast stream:

1. Select **Configure Reflector** from the MPEG Reflector menu on the left pane of the window. The Reflector MPEG Service page appears (FIG. 73).
2. In the **Channel Name** box, enter the name of the service as you want it to appear in playlists.
3. Indicate whether the source is a local channel or an external source by clicking the **Local V2 Channel** or **External Source** option button.
   - If you select, Local V2 Channel, select a Producer channel from the **V2 Channels** options menu.
   - If you select External Source, enter the URL of an address containing an MPEG-2 or H.264 video in the **URL** field.
4. Click the **Unicast** option button to indicate this stream is a unicast stream.
5. Select a unicast source from the **NIC** options menu.
6. Enter the port number in the **Port** field.
7. Click **Apply** if you made any changes to the Reflector configuration.
8. Click the **Service Enable** check box at the top of the screen. Reflector begins multicasting the video stream as configured.

Activating a Multicast Stream

Perform these steps to activate a multicast stream:

1. Select **Configure Reflector** from the MPEG Reflector menu on the left pane of the window. The Reflector MPEG Service page appears (FIG. 73).
2. In the **Channel Name** box, enter the name of the service as you want it to appear in playlists.
3. Indicate whether the source is a local channel or an external source by clicking the **Local V2 Channel** or **External Source** option button.
   - If you select, Local V2 Channel, select a Producer channel from the **V2 Channels** options menu.
   - If you select External Source, enter the URL of an address containing an MPEG-2 or H.264 video in the **URL** field.
4. Click the **Multicast** option button to indicate this stream is a multicast stream.
5. Select the IP address of the network you want to use for the multicast from the **NIC to multicast on** options menu.
6. Click **Apply** if you made any changes to the Reflector configuration.
7. Click the **Service Enable** check box at the top of the screen. Reflector begins multicasting the video stream as configured.

Viewing the Stream

The Vision^2 Services manager provides a menu option to allow you to view the stream without having to start a user player. Click the **View Stream** option in the menu for the service. You must select **Service Enable** on the configuration page to start the service before you can view the stream.

DVB Service

The Vision^2 DVB Service provides and manages a single Digital Video Broadcast (DVB) multiplex of live TV channels to the system. Terrestrial, satellite, and cable TV providers now use a digital rather than analog transmission systems to deliver their content. Where previously a single frequency was required for each TV channel, by using digital compression, multiple channels can be provided on a single frequency (known as a multiplex or bouquet). The DVB service de-multiplexes the individual TV channels on a selected frequency and makes each individual channel available for multicasting to users.

Configuration

When you select the Configure DVB from the DVB Service Menu the following page appears (FIG. 75).

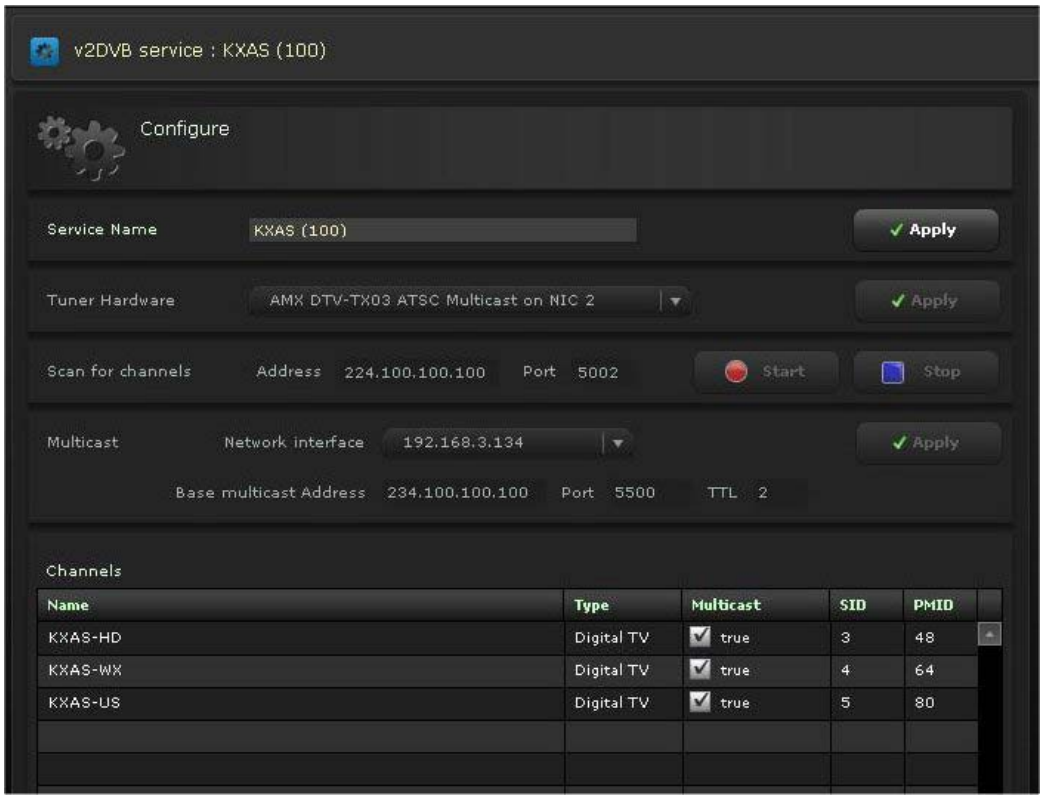


FIG. 75 Configure DVB Service

The Configure DVB Service page consists of the following sections:

Service Settings

FIG. 76 Service settings

The top section on the page deals with the settings for the service itself and consists of the following options:

Service Options	
Service Name	The name of the service as it appears in the services menu
Apply	Click to apply any change to the service name.

Use the Service Name field to enter a unique name for the DVB service. This name appears on the left pane of the window and always refers to this specific configuration. Always click **Apply** after making any changes.

Tuner Hardware Settings

FIG. 77 Tuner Hardware Settings

The second section deals with the selection of the physical DVB tuner used to receive the broadcasts. The Hardware Tuner option enables you to indicate which tuner you want to use for this service. Always click **Apply** after making changes.

Scan for Channels Settings

FIG. 78 Scan for Channels Settings

The third section enables you to scan all of the frequencies used by the broadcaster and detect all of the available TV channels.

Scan for Channels Options	
Address	The address you want to scan.
Port	The port you want to scan.
Start	Start the process of scanning for the available TV channels. ***Warning:*** *Any existing list of channels will be deleted.*
Stop	Stop the scanning process. Only use this if you wish to return later and run the scan process again, as not all of the channels may have been detected.

As the scan proceeds, any detected channels display in the Channel List at the bottom of the page.

The DVB system does not support the decoding of encrypted channels, therefore encrypted channels are not added to the channel list when they are detected.

Scanning for Available Channels

Perform these steps to scan for available channels on all frequencies:

1. Select **Configure DVB** from the DVB Service Menu on the left pane of the window. The Configure DVB Service page appears (FIG. 75).
2. Select the tuner you want to use from the **Tuner Hardware** options menu, and click **Apply**.
3. Enter the IP address you want to scan in the Address field. This IP address should be the multicast address of the applicable transmitter.
4. Enter the port you want to scan in the Port field.
5. Click **Start**. Vision^2 begins to scan for available channels. Any channels it finds appear in the channels section at the bottom of the page.

Multicast Settings

FIG. 79 Multicast Settings

The following options are available in the multicast section:

Multicast Options	
Network Interface	Use this setting if the server has multiple network cards and you want to specify which one is used. This setting does not normally require changing.
Base Multicast Address	All of the channels selected to multicast will be an offset from this address. For example, if the Base Multicast Address is 234.0.0.0, the first channel on the list is multicast on 234.0.0.0, and the second 234.0.0.1, etc.
Port	This is the multicast port number to be used.
TTL	This is the multicast TTL value. You can enter a value in the space provided.

Setting the Multicast Address

Perform these steps to set the multicast address:

1. Select **Configure DVB** from the DVB Service Menu on the left pane of the window. The Configure DVB Service page appears (FIG. 75).
2. Use the **Network interface to multicast on** options menu to indicate which network interface you want to use for multicasting.
3. Enter the base multicast address in the Base Multicast Address field. All channels selected to multicast are offsets from this address.
4. Enter the port for this channel in the Port field.
5. Enter a value for the multicast TTL for this channel in the TTL field. This step is optional.
6. In the Channels area, click the check box in the Multicast column for the channel you want to multicast. This step changes the multicast value of the channel from false to true. A confirmation pop-up appears. Click **OK** to accept this change. Repeat this step for each channel you want to multicast.
7. Click **Apply**.

Channel List

At the bottom of the page is the list of channels available on the selected frequency. This area of the page contains the following view-only information:

Channel List Options	
Name	The channel name as provided by the broadcaster
Type	The type of channel, either Digital TV or Digital Radio
Multicast	Checking the box multicasts the channel.
SID	This is the DVB Service ID, and it is provided for technical users.
PMID	This is the DVB Program Map ID, and it is provided for technical users.

Previewing the Selected Channels

The Vision^2 Services manager provides a menu option to allow you to preview the channels you have selected in the channel list. Select the channel from the available list on the left pane of the window.

Archive Service

The Vision^2 Archive service provides a multi-format, multi-bitrate storage system for videos within the system. Thumbnails for the videos are automatically-generated. You can attach metadata to each video.

The archive can be accessed by means of Video on Demand and also provides the source for a Producer service, which provides a scheduled multicast TV channel. The Archive service supports four types of video files: WMV, MPEG2, MPEG4, and Flash Video (FLV). All four type of video files are supported for Video on Demand, however, Video on Demand can only support one file type at a time.

Configuring the Service

When you select Configure Service from the Archive Service menu, the following page appears (FIG. 80):

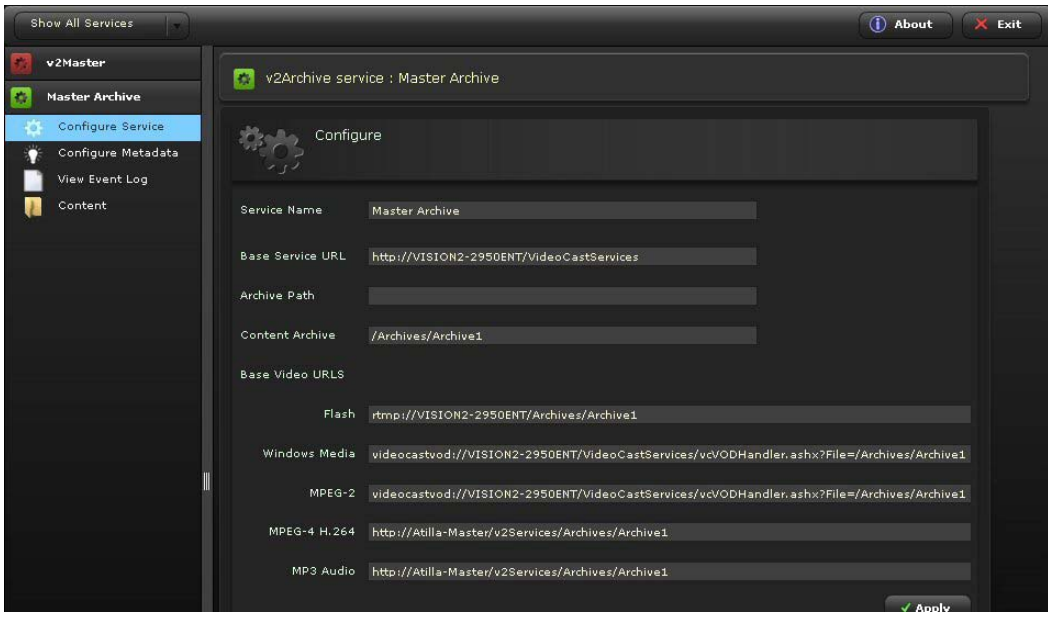


FIG. 80 Master Archive Service

The top panel on the page deals with the settings for the service itself and consists of the following options:

Configure Archive Options	
Service Name	The name of the service as it appears in the services menu
Base Service URL	The URL to the Web Services interface for this service. This value is automatically generated and should not be edited unless instructed by AMX.
Archive Path	This is the physical path to the root folder of the archive. Please do not modify this setting unless instructed to do so by AMX.
Content Archive	This is the relative path the root folder if the archive. Please do not modify this setting unless instructed to do so by AMX.
Base Video URLS	These settings define the protocols and paths used to access the content in the archive. Please do not modify this setting unless instructed to do so by AMX.

NOTE

Filenames should only contain the characters A-Z, 0-9, spaces and underscores. If a filename is imported that contains the special character, it could cause error.

Supported Video on Demand Media Formats

Video on Demand service supports four types of media files (WMV, MPEG-2, MPEG-4, and FLV), however, Video on Demand can only support one file type at a time. To change the supported Video on Demand media format, an administrator must manually edit the vcArchiveBrowserConfig.xml file found in the /v2Service/UI folder.

Flash Video (FLV)

Flash video on the Vision^2 server uses only standard definition and below video sizes. Flash videos must be encoded using the On2 VP6 video codec. The following table lists the recommended bitrates for flash video:

Flash Video Recommended Bitrates		
High	Full D1	1.5 Mbits
Medium	Full D1	800 Kbits
Low	SIF	400 Kbits

Windows Media Video (WMV)

Windows Media video can be encoded using WM9 and VC1. The following table lists the recommended bitrates for Windows Media video:

Windows Media Video Recommended Bitrates		
High	Full D1	1.5 Mbits
Medium	Full D1	800 Kbits
Low	SIF	400 Kbits

The recommended bitrate for high-definition VC1 is 8-12 Mbits.

MPEG-2

MPEG-2 must be encapsulated in an MPEG-2 transport stream. The supported audio formats are:

- MPEG Layer I
- MPEG Layer II
- MPEG Layer 3 (MP3)
- AC3

The following table lists the recommended bitrates for MPEG-2 video:

MPEG-2 Video Recommended Bitrates		
High	Full D1	8 Mbits
Medium	Full D1	6 Mbits
Low	Full D1	4 Mbits

High-definition is supported for playback to a set-top box. The recommended bitrate is 8-12 Mbits.

MPEG-4 AVC (H.264)

MPEG-4 files must be encapsulated in an MPEG-4 stream (.mp4). Files must have the MOOV Atom at the start of the file for fast start. The audio must be in AAC format. The following table lists the recommended bitrates for MPEG-4 video:

MPEG-4 Video Recommended Bitrates		
High	Full D1	1.5 Mbits
Medium	Full D1	800 Kbits
Low	SIF	400 Kbits

NOTE

The bitrates specified above are for playback on a PC unless otherwise stated.

Configuring Metadata

When you select Configure Metadata from the Archive Service Menu the following page appears (FIG. 81).

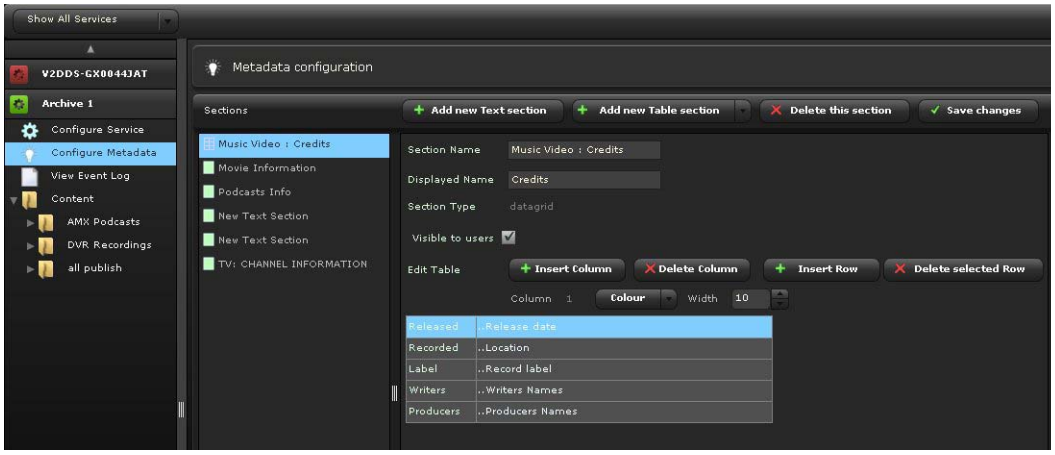


FIG. 81 Metadata Configuration

The Archive supports two styles of metadata:

- Built-in: This information is only available in the Vision^2 Service Manager
- Normal: This information is available in both management and user interfaces

The built-in metadata is used to display the available formats of specific videos and technical information about the videos.

Metadata is stored in different sections which appear as tabs when browsing the archive as an administrator. User-created metadata sections can be of one of two types:

- Text Section: Sequential text
- Table Section: A table with user defined number of columns

Creating a New Metadata Section

To create a new text section, click **Add new Text section**. The following options appear:

Add New Text Section Options	
Section Name	This is the name of the section as it appears on the left side of the page and also when editing metadata in the archive (see the *Editing Metadata* section on page 92). It can be different to the Displayed Name so that related sections appear together in the lists. For example: • Music Video: Info • Music Video: Credits • Music Video: Lyrics • TV Program: Credits • TV Program: Synopsis
Displayed Name	This is the name of the section as it will be displayed to a user
Visible to users	Check this box if you want the section to be visible to the users. If it is not checked then it will only be visible in the management interface.

To create a new table section click **Add new Table** section, select the number of rows and columns, and click **Add Table**.

Add New Table Section Options	
Section Name	This is the name of the section as it appears on the left side of the page and also when editing metadata in the archive. It can be different to the Displayed Name so that related sections appear together in the lists. For example: • Music Video: Info • Music Video: Credits • Music Video: Lyrics • TV Program: Credits • TV Program: Synopsis
Displayed Name	This is the name of the section as it will be displayed to a user.
Visible to users	Check this box if you want the section to be visible to the users. If it is not checked then it will only be visible in the management interface.
Edit Table	
Insert Column	Allows you to insert an extra column
Delete Column	Allows you to delete the selected column
Insert Row	Allows you to insert a new row
Delete Row	Allows you to delete the selected row
Colour	Allows you to change the color of the selected column
Width	Allows you to define the width of the selected column
User can edit this column	Check the box to allow the contents of the column to be edited (see example below)

You can insert text into the table as a hint for when someone is adding metadata to a video. FIG. 82 displays a new table based section and the hints.

FIG. 82 Metadata Table

FIG. 83 displays how the information appears with actual metadata in the main archive.

FIG. 83 Metadata Example

NOTE

*If you make any changes that you want to keep, you must click the **Save Changes** button.*

Browsing and Managing Content

All content is stored in the archive in a hierarchical structure, much like folders on a PC, and is displayed in a similar manner in the archive service menu. The descriptions folder and category are interchangeable.

To open or close a folder, click the arrow to the left of it in the left pane. If you click a folder, you will see a representation of the contents of the folder in the right pane.

You can rename the folder, and you can edit the description by clicking on the folder description below the images. You can also create a new folder, upload a new video, or add an online video. The process of uploading a new video is identical to the process of uploading an additional video (see the *Uploading Additional Versions of the Same File* section on page 93 for more information.) If you want to see your recently recorded files, you must click the Refresh button.

NOTE

Vision^2 does not validate any URL you enter for an online video. If there is an error in the URL, the page will not be successfully displayed.

Archive Sort Function

The Vision^2 Archive Sort function provides the ability to alphabetize an existing Vision^2 archive. Use the archive sort function by following the process outlined below:

1. Open the Vision^2 Admin user interface on the Master server and select the archive tab.
2. Select the root Content folder, you will see a new button, **Sort Entire Archive** at the top right of the screen. Note that this is only available in the root Content folder and not in sub folders as you can only sort the entire archive. See FIG. 84 for details.
3. Click the **Sort Entire Archive** button, a warning box will appear to highlight that the process cannot be undone.

WARNING

AMX advises that the content.xml for the archive should be backed up before proceeding.

4. Click *Yes* to sort the entire archive. Note that you may get a security prompt if authentication is enabled. After the Sort is complete, the Content list will refresh to show the new order. (See FIG. 85 for an example.) The sort process applies to all subfolders and their contents and repeats recursively until all the contents have been sorted. Once the sort is finished, you can reorganize folders and contents manually, if required.The Sort Entire Archive function can be reused at any time, for example when a new batch of content has been uploaded to the archive.

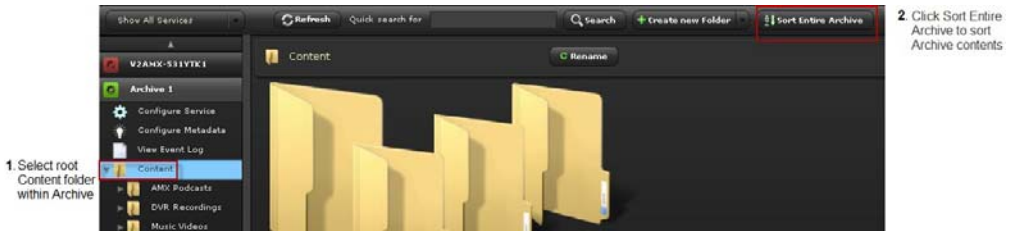


FIG. 84 Using the Sort Archive Function

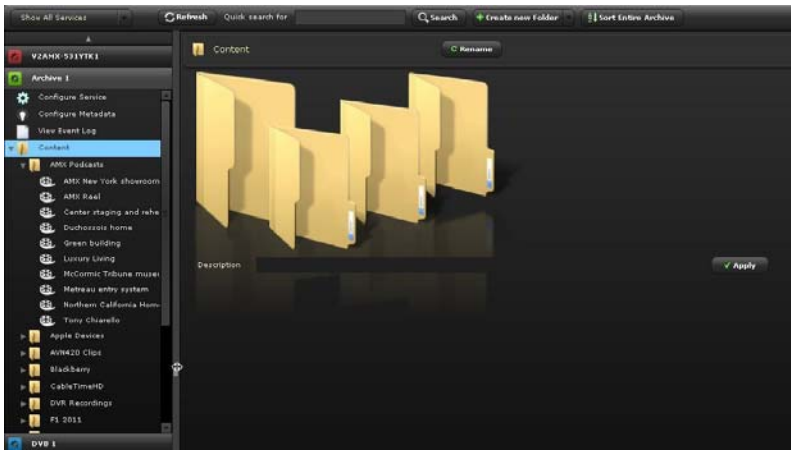


FIG. 85 Folders and Content Sorted Alphabetically

NOTE

The Sort function is only available in Vision^2 version 7.2.2 or higher. This upgrade can only be installed on existing Vision^2 release 7.2 R710 servers. Copy the "V2-Feature Upgrade-Rel-7-2-2 (040512).exe" installer to all your R710 Vision^2 servers, then run the file on all required servers. This will install the required feature upgrades to the wwwroot and v2services folders.

Adding an Online Video to an Archive

Vision2 enables you to provide content links to online videos from websites such as YouTube or MediaSite. Follow these steps to add an online video to an archive.

1. Click the **Content** folder under one of your archives on the left side of the page.
2. On the Content screen, click **Add an online video**. A new series of options appears (FIG. 86).

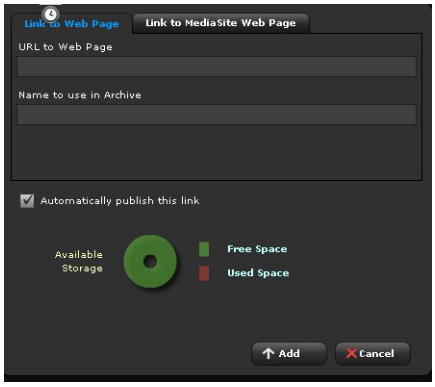


FIG. 86 Add an online video screen

3. In the **URL to WebPage** field, enter the URL to the video you want to add. Vision^2 does not verify this URL, so it must be correct to avoid errors.
4. In the **Name to Use in Archive** field, enter the name of the link as you want it to appear in the archive.
5. Click **Add**.

To add a MediaSite link, click the **Link to MediaSite Web Page** tab. The same information is required as above, but you must also enter a base website URL.

Viewing the Contents of an Archive

To examine an individual video you simply open a folder, and click on the name of the video. To view multiple videos, use CTRL-click. The following options act on multiple selections:

Multiple Selections Options	
Quick search for	Enter the text you wish to search for in the metadata and click the Search button, the videos in the branch of the currently selected content folder will be shown with the search text highlighted in the metadata.
Clear all selections	The current selection is cleared.
Delete Selected Video	Deletes the video shown in the right hand details pane.

The options for each individual video are as follows:

Video Options	
Rename	Change the name of the video as it appears to a user
Published	New videos which have been uploaded are automatically hidden from users not accessing the content through the management interface. This enables the administrator to add metadata before publishing the video for user access.
Play	Allows you to playback the video in all the available file formats and bitrates to check correctness (see the *Playing a Video within the Archive* section on page 92.)
Edit Info	Provides metadata editing (see the *Editing Metadata* section on page 92.)
Edit thumbs	When a new video is uploaded the system automatically generates four thumbnails which are used by the various user interfaces. You can change the thumbnails using this function.
Upload additional video	Once a video has been uploaded, you can upload additional file formats or bitrates of the same video.

The default metadata consists of three sections:

Metadata Options	
Video Formats	This provides an visual representation of the currently uploaded file formats. Passing the cursor over an uploaded video format displays the upload date of the format.
Video Information	Provides technical information on the individual video files.
Synopsis	Provides a description of the video. You can edit this option by clicking Edit Info.

Playing a Video within the Archive

To verify a video within the archive will playback correctly, click the **Play** button and the first available format/bitrate begins to play. The Format / Speed button matrix allows you to select which file format and bitrate to view. Click the appropriate Format and Speed buttons, and then click **Play**.

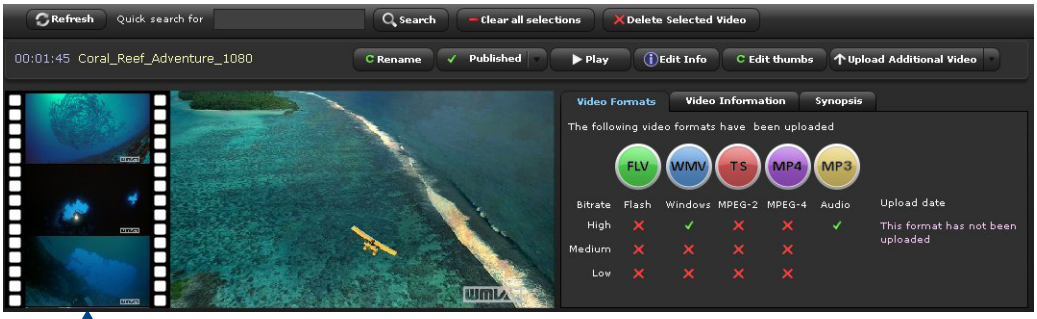


FIG. 87 Archive video

By clicking on one the thumbnail images you will be taken to the point in the video where the thumbnail was captured (FIG. 87).

Editing Metadata

NOTE

You cannot play any audio content from the Archive service on the server itself since the server has no audio capability. You must play audio files from a remote browser with audio capabilities.

To edit the metadata, click **Edit Info** for the video. Initially the Manage Sections options are visible and provide the following functions:

Manage Section Options	
Add new section	Allows a new metadata section to be inserted (see the *Configuring Metadata* section on page 87 for more information.) Select the section to insert from the drop down, and click **Add**.
Move Section Left	Changes the order that metadata will be presented to the user.
Move Section Right	Changes the order that metadata will be presented to the user.
Delete section	Removes the selected metadata section from this video

If you select a text-based section (in this case Podcast Info) and click **Edit Section**, the options change appropriately to display the usual text editing options like font type, size, and weight (FIG. 88).

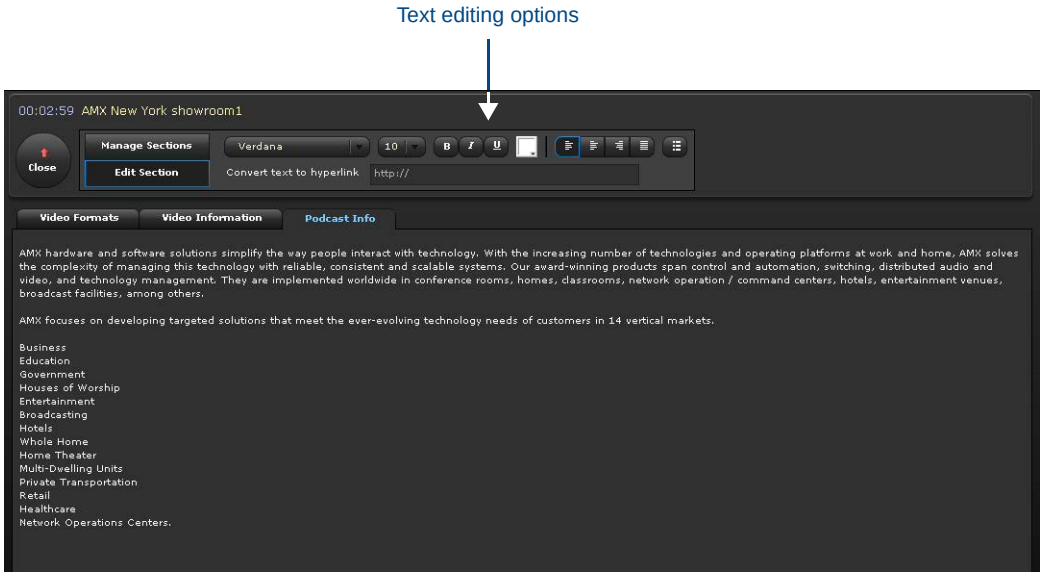

Text editing options
00:02:59 AMX New York showroom1
Close
Manage Sections
Edit Section
Verdana
10
Convert text to hyperlink
http://
Video Formats
Video Information
Podcast Info
AMX hardware and software solutions simplify the way people interact with technology. With the increasing number of technologies and operating platforms at work and home, AMX solves the complexity of managing this technology with reliable, consistent and scalable systems. Our award-winning products span control and automation, switching, distributed audio and video, and technology management. They are implemented worldwide in conference rooms, homes, classrooms, network operation / command centers, hotels, entertainment venues, broadcast facilities, among others.
AMX focuses on developing targeted solutions that meet the ever-evolving technology needs of customers in 14 vertical markets.
Business
Education
Government
Houses of Worship
Entertainment
Broadcasting
Hotels
Whole Home
Home Theater
Multi-Dwelling Units
Private Transportation
Retail
Healthcare
Network Operations Centers.

FIG. 88 Editing Metadata

If you select a table-based section to edit, the options change again. The only options that appear are to insert or delete rows. The table shows gridlines and clicking on a table cell enables editing.

Uploading Additional Versions of the Same File

To upload an additional file format or bitrate version of the video, click **Upload Additional Video** to display the upload screen (FIG. 89). Vision^2 does not support transcoding files. You must upload versions of the same file with different formats and bitrates.

FIG. 89 Upload Additional Video

Perform these steps to upload an additional version of the same file:

1. Click the **Content** folder under **Master Archive** on the left side of the page, and select an existing file.
2. Click **Upload Additional Video**. The upload screen appears.
3. Click the **Browse (...)** button to select a file to upload.
4. Select a bitrate category from the Bitrate options menu.
5. Click **Upload**.

Thumbnail Editor

The thumbnail editor allows users to create video thumbnails, effectively bookmarks to certain points in your video. Each thumbnail contains an image captured from the video at the time of creation along with some descriptive text to describe its purpose. The thumbnail editor consists of two screens:

- Archive Navigation Screen - this is the first screen. It is used to select those videos you want to work on.
- Thumbnail Editor Screen - this screen is used to view, create, or edit thumbnails for a video selected using the Archive Navigation screen.

The Thumbnail Editor is only available in Vision^2 version 7.2.2 or higher. This upgrade can only be installed on existing Vision^2 release 7.2 R710 servers. Copy the "V2-Feature Upgrade-Rel-7-2-2 (040512).exe" installer to all your R710 Vision^2 servers, then run the file on all required servers. This will install the required feature upgrades to the wwwroot and v2services folders.

Requirements

The thumbnail editor requires Internet Explorer 8 (x32bit) web browser or later running on Windows XP or later.

The thumbnail editor requires two plugins:

- Adobe Flash (version 11 or higher). Download from **http://get.adobe.com/flashplayer/**
- VLC Media Player (version 2.0 or higher). Download .exe installer from **http://www.videolan.org/vlc/download-windows.html**

In order to edit thumbnails a user must be a member of either:

- Vision^2 Servers NT Administrator Group

or

- an NT group on the Vision^2 Server listed in the file config.xml which is located at c:\inetpub\wwroot\v2services\ui\ThumbsEditor.

A sample config.xml file is as follows:

```
<?xml version="1.0"?>
  <config>
    <!-- List of Windows NT User Groups whose users will be granted edit rights -->
    <editgroup>WinNT://DOMAIN_NAME/SERVER_NAME/ThumbnailsEditors</editgroup>
  </config>
```

Login to Thumbnail Editor

Login to the Thumbnail editor as follows:

1. Enter the application link provided by your system administrator into your web browser. For example, **http://<Server Name>/ThumbsEdit.aspx**. Replace <server name> with the name or IP address of your Vision^2 Server. You should see a login panel as shown in FIG. 90.

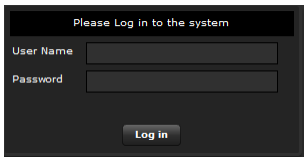


FIG. 90 Login Window

2. Enter the username and password provided by your system administrator and click *Log in*. The first application screen will now load, the Archive Navigation Screen.

WARNING

Do not login more than once with the same credentials (username and password).

Archive Navigation Screen

The Archive Navigation Screen consists of two main areas (see FIG. 91):

- **The Archive Navigation Pane** - used to navigate through the video archive and select those videos you wish to create/view thumbnails for.
- **The Selected Video Are**a - shows the videos selected in the navigation pane. You can now view, create, edit or delete thumbnails for these videos.

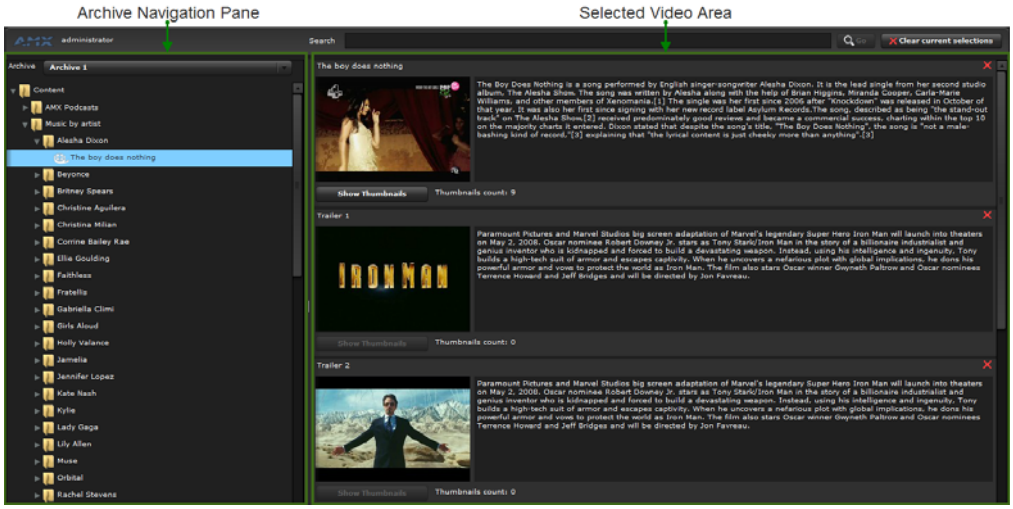


FIG. 91 Different Areas of Main Thumbnail Creation Screen

The Archive Navigation Pane works in a similar way to windows explorer:

- Click the arrows beside the folders to expand or contract them, revealing or hiding the contents respectively
- Videos are indicated by filmstrip icons. The video title appears to the right of the icon.

NOTE

MP3 files are not shown.

Click a video you want to create/edit thumbnails for; this adds the video to the selected video area. Each video in this area contains the following:

- Video title (above image)
- Video image
- Video description (to the right of the image)
- Number of thumbnails associated with the video (thumbnail count). If this number is one or more then the video will have a **show thumbnails** button.

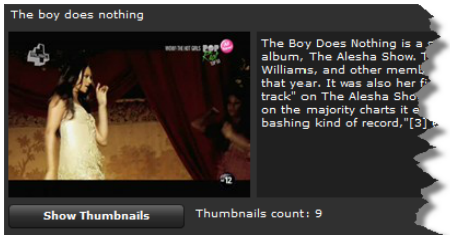


FIG. 92 Video in Selected Video Area

You can also select videos using the Search bar. Enter the text you want to search for and click the magnifying glass. Videos with a title, metadata, description, or thumbnail which contain this text are added to the Selected Video Area.

FIG. 93 Search Bar

Click *Clear current selections* to remove all videos from the Selected Video Area.

You can carry out the following actions on videos in the Selected Video Area:

- **Play video in thumbnail editor** - hover over the video image to reveal a blue play icon. Click this icon to go to the thumbnail editor and start the video playing (from the beginning). Note that if someone is already playing/editing this video then you will see the following error message:

FIG. 94 Error Message - Video Locked By Other User

  This message shows the username of the other user who is editing the video. Wait until they have finished to proceed.

- **Show the thumbnails associated with video** - Click *Show Thumbnails* to view all the thumbnails associated with this video and the descriptive text associated with these thumbnails.
- **Remove video** - Click the red cross in the top right hand corner to remove this video.

If you selected **Show thumbnails** you now have a list of thumbnails. Each thumbnail has an image, a time and some descriptive text.

- Time - time from start of video in (hours:minutes:seconds) of this thumbnail
- Descriptive text - text describing what the thumbnail bookmarks
- Image - thumbnail image

To play the video in the thumbnail editor screen starting at the point marked by this thumbnail proceed as follows:

1. Hover over the thumbnail image to reveal a blue play icon.
2. Click the blue play icon, see FIG. 95. Note if someone is already editing this video then you will see the error shown in FIG. 94:

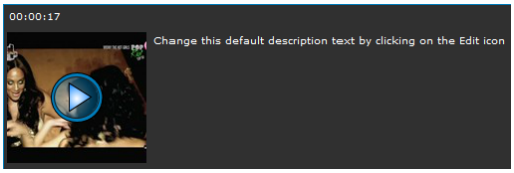


FIG. 95 Play Video From Thumbnail Position

Thumbnail Editor Screen

The thumbnail editor screen (FIG. 96) consists of two main areas:

- **Thumbnail bar** - Contains a number of thumbnails arranged in time order. Thumbnails at the top occur earlier in the video than those further down.
- **Video Playback Area** - Plays the video selected in the previous screen.

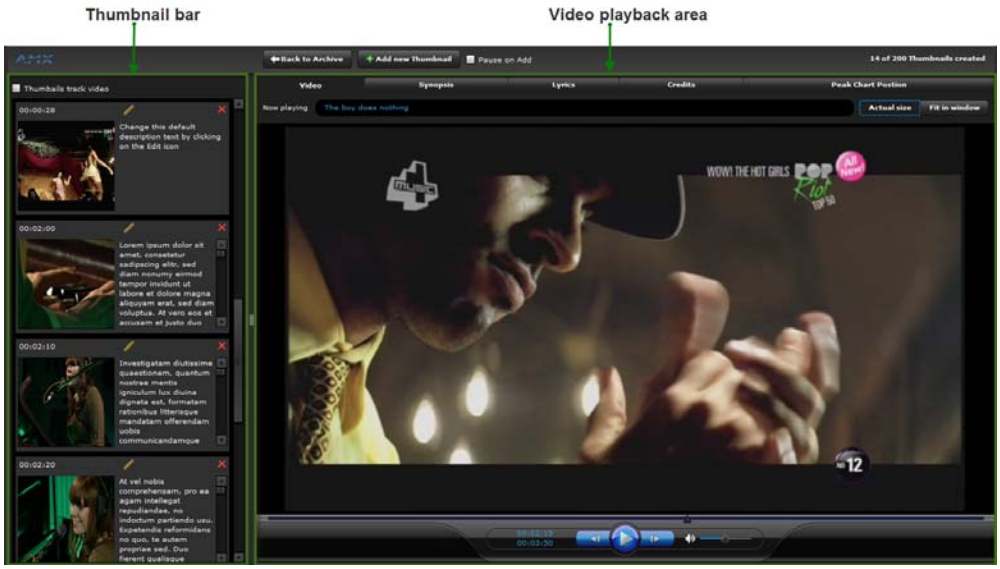


FIG. 96 Thumbnail Editor Screen

The following actions are available in this screen:

- Play a Thumbnail
- Create a new Thumbnail
- Delete a Thumbnail
- Add descriptive text to a Thumbnail
- Play video
- Return to archive

These actions are described in detail over the following pages.

Playing a Thumbnail

Hovering over the thumbnail images in the thumbnail bar reveals a play icon which allows you to play the video from the time marked by that thumbnail. Set the **Thumbnail track video** checkbox to automatically scroll the thumbnail bar to show those thumbnails closest in time to the current video playback.

Creating a Thumbnail

You can create up to 200 thumbnails for a video as follows:

1. Start the video playing, ether by clicking play in the video playback panel or by clicking play on a thumbnail image.
2. Wait until the video reaches the moment you want to mark.
3. Click *Add new Thumbnail* to add a new thumbnail to the Thumbnail bar. This thumbnail marks your current video playback position and a thumbnail image is captured from the video playback. **Note** that you can set the **Pause on Add** checkbox to force the video playback to pause when you add a thumbnail.

NOTE

Occasionally there will be some discrepancy between the time when you press Create Thumbnail and the time when the image is captured from the video. This is an artifact of the way some compressed video formats work.

Deleting a Thumbnail

Unwanted thumbnails can be deleted by clicking on the red arrow in the top right corner of the thumbnail.

Adding Descriptive Text to a Thumbnail

Once you have created a thumbnail you add descriptive text to provide further information for users. Click on the pencil (edit) icon or within the text field to edit the thumbnail text, see FIG. 97. Once you are satisfied, click the floppy disk (save) icon to save your changes, see FIG. 98 . You can undo your changes by clicking on the curved (undo) arrow. Up to 5000 characters are allowed.

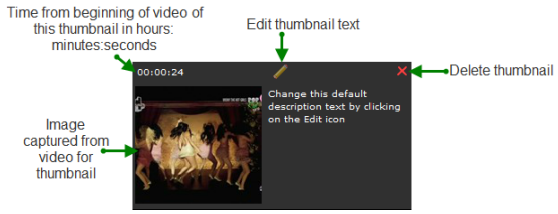

Time from beginning of video of this thumbnail in hours: minutes:seconds
Edit thumbnail text
Delete thumbnail
00:00:24
Change this default description text by clicking on the Edit icon
Image captured from video for thumbnail

FIG. 97 Thumbnail Entry in Thumbnail Bar

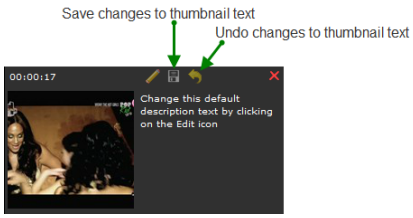

Save changes to thumbnail text
Undo changes to thumbnail text
00:00:17
Change this default description text by clicking on the Edit icon

FIG. 98 Modifying Thumbnail Text

Returning to Archive to Select Another Video

Click *Back to Archive* to return to the Archive Navigation screen.

Video Playback Area

The video playback area is used for the following actions:

- Viewing a video.
- Finding the right position in a video to create a thumbnail.
- Viewing thumbnails that have already been created.

You can control the playback using a small panel at the bottom of the screen, see FIG. 99. The main controls are as follows:

- Drag the slider to a position on the timeline to play the video from that position.
- Click a position on the timeline to play the video from then.
- Click the play button to play the video.
- Click pause to halt playback.

FIG. 99 Video Playback Control Panel

Exiting the Thumbnail Editor

Navigate back to the Archive Navigation Pane once you have finished viewing a video and/or creating thumbnails and click Back to Archive before exiting the application. Do not close the browser or Edit thumbnail screen, otherwise the video you are working on will stay locked and will not be accessible to other users.

NOTE

If you forget to logout correctly, you will need to log back in, play the problem video, and then exit correctly.

Thumbnail Viewer

The thumbnail viewer allows users to view video thumbnails, effectively bookmarks to certain points in your videos. Each thumbnail contains an image captured from the video at the time of creation along with some descriptive text to describe its purpose. The thumbnail viewer consists of two screens:

- Archive Navigation Screen - this is the first screen. It is used to select those videos you want to work on.
- Thumbnail Viewer Screen - this screen is used to view thumbnails for a video selected using the Archive Navigation screen.

The Thumbnail Viewer is only available in Vision^2 version 7.2.2 or higher. This upgrade can only be installed on existing Vision^2 release 7.2 R710 servers. Copy the "V2-Feature Upgrade-Rel-7-2-2 (040512).exe" installer to all your R710 Vision^2 servers, then run the file on all required servers. This will install the required feature upgrades to the wwwroot and v2services folders.

Requirements

The thumbnail viewer requires Internet Explorer 8 (x32bit) web browser or later running on Windows XP or later.

The thumbnail editor requires two plugins:

- Adobe Flash (version 11 or higher). Download from **http://get.adobe.com/flashplayer/**
- VLC Media Player (version 2.0 or higher). Download .exe installer from **http://www.videolan.org/vlc/download-windows.html**

Login to Thumbnail Viewer

Login to the Thumbnail viewer as follows:

1. Enter the application link provided by your system administrator into your web browser. For example, **http://<server name>/ThumbsViewer.aspx**. Replace <server name> with the name or IP address of your Vision^2 Server. The first application screen will now load, the Archive Navigation Screen.

Archive Navigation Screen

The Archive Navigation Screen consists of two main areas (see FIG. 100):

- **The Archive Navigation Pane** - used to navigate through the video archive and select those videos you wish to create/view thumbnails for.
- **The Selected Video Are**a - shows the videos selected in the navigation pane. You can now view thumbnails for these videos.

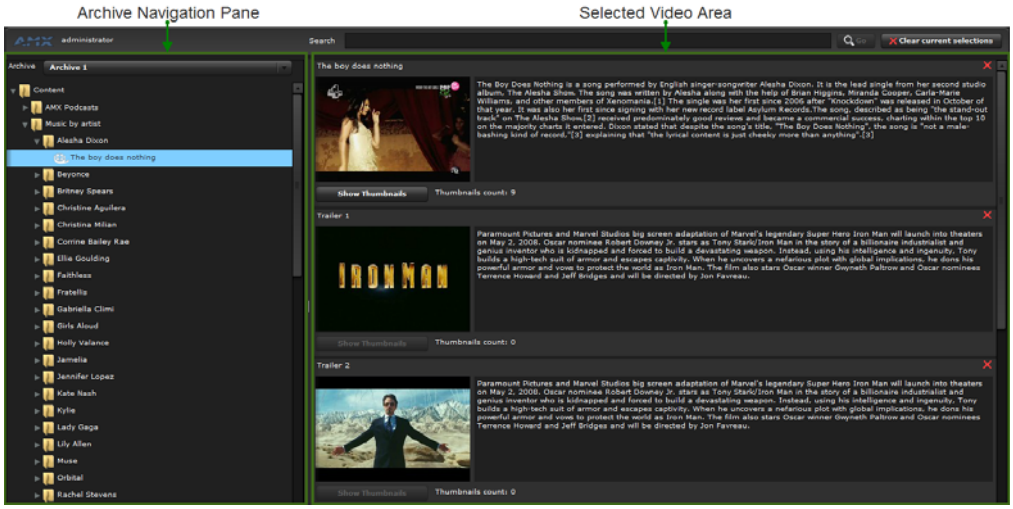


FIG. 100 Different Areas of Main Thumbnail Creation Screen

The Archive Navigation Pane works in a similar way to windows explorer:

- Click to expand a folder revealing its contents
- Click to contract a folder
- Videos are indicated by filmstrip icons. The video title appears to the right of the icon.

NOTE

MP3 files are not shown.

Click a video you want to create/edit thumbnails for; this adds the video to the selected video area. Each video in this area contains the following:

- Video title (above image)
- Video image
- Video description (to the right of the image)
- Number of thumbnails associated with the video (thumbnail count). If this number is one or more then the video will have a **show thumbnails** button.

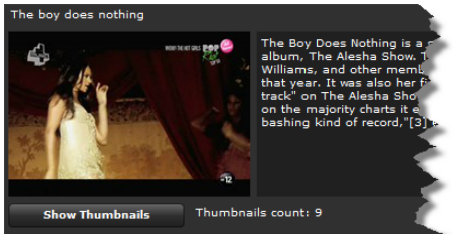


FIG. 101 Video in Selected Video Area

You can also select videos using the Search bar. Enter the text you want to search for and click the magnifying glass. Videos with a title, metadata, description, or thumbnail which contain this text are added to the Selected Video Area.

FIG. 102 Search Bar

Click *Clear current selections* to remove all videos from the Selected Video Area.

You can carry out the following actions on videos in the Selected Video Area:

- **Play video in thumbnail viewer** - Hover over the video image to reveal a blue play icon. Click this icon to go to the thumbnail viewer and start the video playing (from the beginning).
- **Show the thumbnails associated with video** - Click *Show Thumbnails* to view all the thumbnails associated with this video and the descriptive text associated with these thumbnails.
- **Remove video** - Click the red cross in the top right hand corner to remove this video

If you selected **Show thumbnails** you now have a list of thumbnails. Each thumbnail has an image, a time and some descriptive text.

- Time - time from start of video in (hours:minutes:seconds) of this thumbnail
- Descriptive text - text describing what the thumbnail bookmarks
- Image - thumbnail image

To play the video in the thumbnail viewer screen starting at the point marked by this thumbnail proceed as follows:

1. Hover over the thumbnail image to reveal a blue play icon.
2. Click the blue play icon, see FIG. 103.

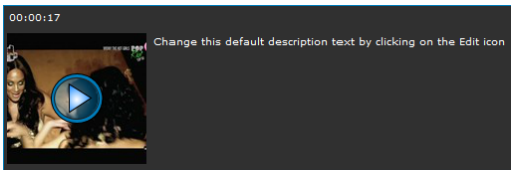


FIG. 103 Play Video From Thumbnail Position

Thumbnail Viewer Screen

The thumbnail viewer screen (FIG. 104) consists of two main areas:

- **Thumbnail bar** - Contains a number of thumbnails arranged in time order. Thumbnails at the top occur earlier in the video than those further down.
- **Video Playback Area** - Plays the video selected in the previous screen.

FIG. 104 Thumbnail Viewer Screen

The following actions are available in this screen:

- Play a Thumbnail
- Play video using video playback control panel
- Return to archive

These actions are described in detail over the following pages.

Playing a Thumbnail

Hovering over the thumbnail images in the thumbnail bar reveals a play icon which allows you to play the video from the time marked by that thumbnail. Set the **Thumbnail track video** checkbox to automatically scroll the thumbnail bar to show those thumbnails closest in time to the current video playback.

Viewing Video Metadata

Click on the named tabs in the Video Metadata tab area to view information about the video added by the Vision^2 administrator.

Returning to Archive to Select Another Video

Click *Back to Archive* to return to the Archive Navigation screen.

Video Playback Area

The video playback area is used for the following actions:

- Viewing a video.
- Viewing thumbnails.

You can control the playback using a small panel at the bottom of the screen, see FIG. 105. The main controls are as follows:

- Drag the slider to a position on the timeline to play the video from that position.
- Click a position on the timeline to play the video from then.
- Click the play button to play the video.
- Click pause to halt playback.

FIG. 105 Video Playback Control Panel

Producer Service

Overview

The Vision^2 Producer Services provides a single scheduled TV channel to the system. Producer schedules a unicast of WMV files or a multicast of MPEG-2, MP4 H.264, or WMV files or a live channel from a Vision^2 archive. Schedules run on a four week loop, then begin again after the four weeks have expired. In the event there is no content scheduled for a certain period of time, Producer enables you to set an intermission source which automatically plays an MPEG-2, MP4 H.264, or WMV file from a Vision^2 archive, a multicast MPEG-2 or MP4 H.264 source such as a DVB or Live MPEG channel, or a unicast WMV source such as a live WMV channel. Please note that both the MPEG, MP4 H.264, and WMV (Windows Media Video) variants are managed in exactly the same manner, and that this section is applicable to both services.

Configuration

When you select **Configure Service** from the Producer menu, the following page appears (FIG. 106).

FIG. 106 Configure Producer Service

You can configure the following options for the Vision^2 Producer Service:

Configure Options	
Service Enable	This enables the service and will begin multicasting if appropriate. ***Note:*** *You cannot edit any of the other settings while the service is enabled.*
Service Name	The name of the service as it appears in the playlists.
Web Service URL	The URL to the Web Services interface for this service. This value is automatically generated and should not be edited unless instructed by AMX.
Stream Address	
Address	The multicast address for this channel
Port	The multicast port for this channel
TTL	The multicast TTL for this channel. You can enter a value in the space provided.
NIC to use	The IP address of the network to use for multicasting.
Content	The Archive which is to be used as the source of the videos to be scheduled.
Path to content	The physical path to the archives content
Intermission This section defines what to do whenever there are no videos scheduled to broadcast. You can schedule a specific MPEG-2 file from a Vision^2 archive, a multicast MPEG-2 source such as a DVB or Live MPEG channel, or a WMV source such as an encoder.	
Enable	If the Intermission not enabled and nothing is scheduled then the user sees a blank screen.
Source	Defines whether a file plays continuously or if it is a live feed during Intermission.
Live	Select the live channel from the available list. This option only appears if you select Live Feed for your source.
Name	Select a source file from the menu on the left pane. This option is view-only if you select File for your source.
URL	The path of the intermission source. This field is automatically populated when you select a file or live channel.
Video Format	Select the video format by clicking the appropriate option button. You can choose from MPEG and MP4 H.264 with MPEG Producer. For WMV Producer, the only option is Windows (.WMV). ***Note:*** *You should have separate Producer services to isolate the MPEG-2 and the H.264 Live channels and content. If you mix the content, the Producer service may not function properly.*
Bitrate	Select the bitrate of the files to be used from the selected archive.

You must apply the settings any changes to take effect.

Multicasting with Producer

Perform these steps to multicast with Producer:

1. Select **Configure Service** from the V2Producer Menu on the left pane of the window. The Configure Producer page appears (FIG. 106).
2. Select the IP address of the network you are using from the NIC to Use options menu.
3. Click the **Service Enable** check box. Vision^2 begins multicasting on the multicast address you assigned.

Setting Up an Intermission

If there is no content scheduled for a certain period of time, Producer enables you to set an intermission source which automatically plays an MPEG-2 or WMV file from a Vision^2 archive, a multicast MPEG-2 source such as a DVB or Live MPEG channel, or a unicast WMV source such as a live WMV channel. Unmanaged channels are also available for Intermission, as well.

Perform these steps to set up an intermission:

1. Select **Configure Service** from the V2Producer Menu on the left pane of the window. The Configure Producer page appears (FIG. 106).
2. Click the **File** or **Live Feed** option button to indicate whether the intermission source is from a file or a live feed. After making your selection, do one of the following:
   - **File**: Select a file from the menu on the left pane of the window.
   - **Live Feed**: Select a live feed from the Live options menu.
3. Click **Apply**.
4. Click the **Enable** check box in the Intermission section.
5. Click the **Service Enable** check box to activate the intermission.

The Name and URL fields populate with the name and path of the intermission source. This source will play if there is no scheduled content playing on the regular multicast.

NOTE

If you disable a live channel while it is being used as the Intermission file, the Live drop-down menu will not be consistent with the URL, and the Intermission file will not work.

Schedule Editing

Producer runs a four week schedule which loops and starts again after the four weeks. To edit the schedule, select the **Edit Schedule** menu option in the service (FIG. 107).

FIG. 107 Edit Schedule screen

The following options are available on the top toolbar:

Edit Schedule Options	
Snap	When moving a program or adding a program to the schedule, the Snap limit defines the program time start boundary. For example, a 15 minute Snap setting only allows programs to be scheduled at :00, :15, :30, and :45 minutes past each hour.
Copy	The copy option enables you to copy individual programs, days, or entire weeks from one part of the schedule to another.
Delete	The delete option enables you to delete individual programs, days, or entire weeks from the schedule.
Save	To update the schedule on the server, click **Save**. Any changes will immediately take effect.
Show Program Info	When you select a program already in the schedule or one from the content menu, you can see the same program information that is available in the archive.

- To move a program within the schedule, simply drag-and-drop it into the new location. If you attempt to drop it into a location where it will not fit (due to other programs) then it will return to its original location.
- To schedule a new program, drag it from the content menu on the left and onto the schedule.

Viewing the Stream

The Vision^2 Services manager provides a menu option which allows you to view the stream without having to open a user player. Simply click the **View Stream** option in the menu for the service. You must have selected **Stream Enable** on the configuration page to start the service, and either have scheduled some content or enabled the Gap file before you can view the stream.

Record Service

The Vision^2 Record Service provides the ability to record a multicast MPEG-2 or unicast Windows Media stream into an Archive. The Record Service essentially serves as a Digital Video Recorder. You can record any Live MPEG, DVB-T, encoder WMV stream, or unmanaged channel continuously, creating files of a fixed duration, or you can manually record a specific event. (Recording unmanaged WMV channels is not supported.)

Configuration

When you select the Configure DVR from the Record Service Menu the following page appears (FIG. 108):

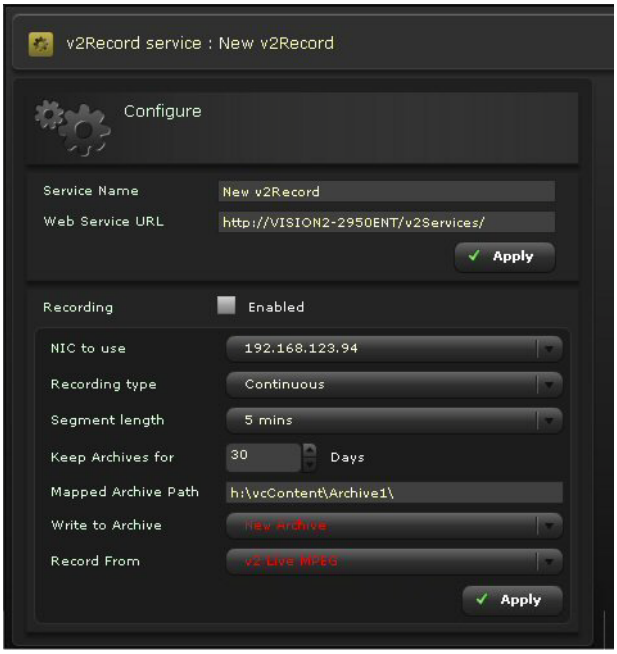


FIG. 108 Configure Record Service

Service Settings

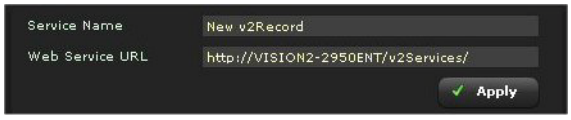


FIG. 109 Service Settings

The top section of the page deals with the settings for the service itself and consists of the following options:

Service Settings Options	
Service Name	The name of the service as in Services Manager.
Web Service URL	The URL to the Web Services interface for this service. This value is automatically generated and should not be edited unless instructed by AMX.

Recording Settings

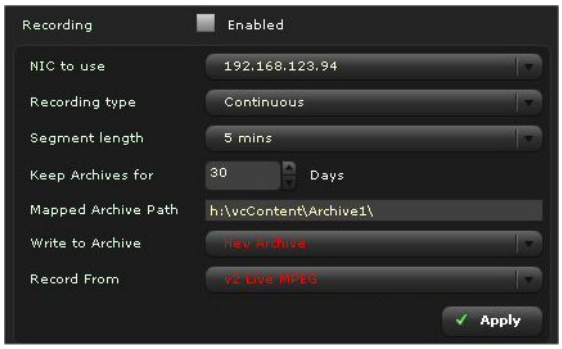


FIG. 110 Recording Settings

The bottom section of the page deals with the specific parameters for recording a stream. When you check the Recording Enable check box, the system starts the recording.

NOTE

With recording enabled, you cannot change any of the recording parameters.

The following settings are available in the Recording section:

Recording Settings Options	
NIC to use	The Network interface from which you want to record.
Recording type	This can be either Continuous or Manual. Continuous recordings create a new recording in the Archive at specific intervals according to the value defined in the Segment length option. Manual recordings require the user to actually start and stop the recording process themselves. ***Note:*** *If you stop and restart a Continuous recording, another archive folder appears in the left pane with an identical folder name as the previous archive folder. You can select the new archive folder and click Rename in the right pane to help differentiate between the archive folders.*
Segment length	This value defines the length of each individual recordings created by a continuous recording. Available options are 5, 15, 30, and 60 minutes.
Keep Archives for	To prevent the continuous recording mode from filling up the hard disk used by the archive the system will delete automatically generated recordings after the period defined here. To prevent specific recordings being deleted, use the Content menu in the archive to drag them from the Automatic Recordings folder into the main archive itself. All automatic recordings are placed in a special area of the archive which are subfolders of the DVR Recordings | Automatic Recordings folder. ***Note:*** *The automatic recordings are not available for scheduling in the Producer service. They are also not searched when you perform a Content search in the Archive service. You must move the automatic recordings to a new folder to be able to search and schedule them in these services.*
Mapped Archive Path	This defines the physical path to the archive and should only modified if instructed by AMX.
Write to Archive	This defines the archive in which you want the recordings to save.
Record From	This enables you to select which stream to record.

Recording a Video Stream

Perform these steps to record a video stream:

1. Select **Configure DVR** from the Record Services menu on the left pane of the window. The Record Service page appears (FIG. 108).
2. Select the IP address of the network you are using from the **NIC to Use** options menu.
3. Select **Continuous** from the **Recording type** options menu.
4. Select the length of each individual recording from the **Segment length** options menu.
5. Use the **Keep Archives for** spin box to indicate how long you want the recordings to remain in the archive.
6. Click **Apply** to save the new settings.
7. Click the **Recording Enable** check box to begin recording the video stream.

If you disable a live service that is being recorded, the record service will generate an error. You must stop the current record service, and then start and stop a second record service to clear the error. Once the error is cleared, the record service should function normally again. This error also occurs if you refresh your browser during a Manual Recording.

Manual Recording

After you have configured the Record service for manual recording and have enabled recording, select **Manual Recording** from the Record services menu. A video player opens with additional controls to stop and start the recording. You can also enter the filename as it will appear in the archive while the video player is open. The maximum supported manual recording is three hours.

The file name is not the name of the file that will be recorded, but it is the name of the recording as displayed in the archive.

Scheduled Recording

The Scheduled Record feature allows you to schedule when a live service is to be recorded. You must select the source from which to record and enable the service before editing the schedule. Scheduled recordings are only supported in the Live MPEG service and in 10 minute increments.

1. Select **Configure DVR** from the Record Services menu on the left pane of the window. The Record Service page appears (FIG. 111).

FIG. 111 Scheduled Recording screen

2. In the Schedule editor, select the time where the recording should occur. A pop-up dialog box appears (FIG. 112).

FIG. 112 Scheduled Recording dialog box

3. Enter the name the recording in the Program Name field.
4. Use the up-and-down arrows to indicate the duration of the recording in 10 minute increments.

NOTE

You can enter a value in the Duration field, however, Vision^2 only supports scheduled recordings in 10 minute increments. If you enter a value in the Duration field that isn't a 10 minute increment, Vision^2 automatically rounds up to the next 10 minute increment without alerting you.

5. Click **Save**.

Event Log

In common with other services, the Record service generates an event log which you can examine by selecting **View Event Log** from the Record services menu.

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